DOCUMENT RESUME

ED 082 156 CS 000 749

AUTHOR	Raygor, Alton L., Ed.
TITLE	College and Adult Reading II; Second Annual Yearbook.
INSTITUTION	North Central Reading Association, St. Paul, Minn.
PUB DATE	Jun 63
NOTE	176p.; Report of the papers presented at the Annual Meeting of the North Central Reading Assn. (5th, Cleveland, Oct. 20-21, 1962); See related documents CS000748, CS000750-000752
AVAILABLE FROM	David M. Wark, Reading and Study Skills Center, Student Counseling Bureau, Univ. of Minnesota, Minneapolis, Minn. 55455 ($2.00)
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	*Adult Reading Programs; Conference Reports; Developmental Reading; Inservice Education; Programed Instruction; Reading Comprehension; Reading Development; Reading Improvement; *Reading Instruction; Reading Programs; *Reading Research; Speed Reading; Study Skills

ABSTRACT

This yearbook contains the papers presented at the Fifth Annual Meeting of the North Central Reading Association. The titles and authors of the papers included are: "Speed Reading vs. Effective Developmental Reading" by Lester Van Gilder; "Counseling and Reading, Their Interrelationship" by Boyd Jackson; "Recent Research in College and Adult Reading" by A. Garr Cranney; "Reading Training for Industry" by Leonard Braam; "Reading Improvement at Firestone" by Glen Cross; "Reading Training in Industry" by Byron Svetlik; "Reading and Study Skills: A Balance" by Mrs. Herbert Ketcham; "The Importance of Structured Outside Assignments" by James Brown; "The University of Toledo 'Total Push' Reading Program" by Ronald Crowell, Herbert Gerjuoy, and Miriam Wendt; "The Reading Improvement Program at Ferris Institute" by E. Coston Frederick; "An Operative 'Second Chance' Philosophy" by Orval Anderson; "An Evaluation of Developmental Reading at West Bend High School" by Marjorie Dummett and Raymond Urbas; "A Course in Reading Improvement for Executives" by William Hastings; "Western Reserve University's Preparation for College Program" by Morton Shanberg; "Progress in Programmed Instruction" by Alton Raygor; and "A Program to Improve Paragraph Comprehension" by Pearl Roossinck. (TO)

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COLLEGE AND ADULT
READING

II

The
Second Yearbook
of the
North Central Reading Association

Edited by

Alton L. Raygor

Reading and Study Skills Center
Student Counseling Bureau
University of Minnesota

June, 1963

CS 000 749

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PREFACE

This yearbook, the second published by the North Central Reading Association, is a report of the papers presented at the Fifth Annual Meeting of the Association in Cleveland on October 20-21, 1962.

The NCRA is a group formed in the fall of 1958 under the leadership of Harry O. Patterson, of the General Motors Institute.

The enthusiastic acceptance of the First Annual Yearbook, College and Adult Reading I, last year, has resulted in the publication of this volume.

One of the major purposes of the NCRA is to give encouragement to research and experimentation in the field of reading. Reports of such research form part of this yearbook. Whatever success the NCRA has enjoyed in its brief history is due in large measure to the efforts of those who prepare and present papers at the annual meetings.

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Speed Reading vs Effective Developmental Reading

by

Lester L. Van Gilder
Marquette University

Almost ninety percent of everything the adult learns about his world, past, present, or future, is achieved through reading. To keep abreast of developments and advances in his business or profession; to maintain a broad outlook and proper perspective, the adult must read widely in areas both inside and outside his own field.

The increasing complexity of modern life has resulted in a continuing flood of reading material. Today's business and professional man probably goes through more reading material in a week than his great-grandfather faced in a year. In just a decade, the amount of reading material presented to modern man has quadrupled. Surveys have shown that the average business man spends 20 to 25 hours a week reading correspondence, inter-office memoranda, technical reports, trade journals and business newspapers. It has been estimated that physicians and lawyers would require 27 hours a day, utilizing reading skills found typical of these professionals, to cover only the more important professional journals and literature in these fields. Research studies however also show that the typical business and professional man wastes, through inefficient reading, 25 to 30 percent of time devoted to reading.

Thus, probably the greatest problem of the business and professional man is trying to keep abreast of the great volume of the reading which is essential for competent performance in his field. Each day he struggles through several piles of memoranda, reports, directives, announcements and forms. At least twice a day he is presented with a fresh batch of correspondence--personal letters, business letters, advertisements, etc. On one corner of the desk is a group of trade and business magazines awaiting his leisure. Near them is a pile of technical reports, reprints, manuscripts, and other unfinished matter. In his briefcase there are more departmental reports, a recent book, a copy of this week's edition of a news magazine--all only partly or hurriedly read. So it is that the bulging briefcase has become the hallmark of the executive and the professional man.

This accumulation of unread materials is due largely to inadequate or inappropriate reading techniques. Many business people have only one approach to reading--a slow, careful perusal. They fail to realize or recognize that different materials vary in importance or in the intensity of the attention these materials demand. Such individuals read in a habit-bound fashion, without relating the manner of reading to the value of the matter being read.

One might expect that businessmen of the executive level would utilize reading to keep themselves informed, to broaden their outlook, and to help them in making business decisions. Several surveys of the reading habits of business executives refute this assumption. The members of management generally resemble the ordinary American in reading books of the best-seller lists--if they read at all.

Harrassed businessmen, lawyers, physicians, and educators have sought relief from their seemingly overwhelming burden of reading by enrolling in special "rapid" or "speed" reading courses. Numerous reports have appeared in the press about phenomenally high reading speeds achieved by graduates of such courses: 1,200; 5,000; 50,000 words-per-minute. Discussions in social gatherings now revolve about the amount of time required to read a book rather than about its contents or worth. One woman is reported to have held her clubwomen entranced by telling about reading Dr. Zhivago in 20 minutes.

While it is true that much material presented to the busy professional is of such minimal value that it deserves no more than a fleeting glance, this certainly is not true of ALL his reading material. Is it possible to read and comprehend most kinds of materials at thousands of words per minute? Dr. George Spache, President of the National Reading Conference, has concluded from extensive research that while the term "reading" is interpreted in the sense of "reading most of the words on a page, it is impossible to read faster than

800 to 900 words per minute." Thus, the extraordinary "reading" rates reported result from some sort of skimming or scanning technique. These techniques are not always applicable to all kinds of reading situations. The person who habitually zooms along at a jet-propelled pace and the person who usually plods along at a snail's pace are both inefficient readers.

Of course, a person can get through "practical prose" -- most newspaper stories, many magazine articles, the bulk of office memoranda, business letters, and so on -- at high speed and miss little, if anything, of consequence. And that's desirable. You can skim a whodunit, too, at a thousand or more words a minute and get the plot--and maybe that isn't bad because you'll get to sleep earlier. But try this on Shakespeare!

Skimming, however, is not the whole story. Even when they are not skimming, effective readers use different techniques than do average readers. Eye movement photographs have shown that the eyes do not, as many people think, sweep smoothly across a line of print.[1] Instead, they progress in a series of starts and stops. It is during the pauses (fixations) that words are actually seen. Inefficient readers have been found to make more and longer fixations than does the efficient reader.

In addition, most effective readers apparently have a different psychological attitude, coming to any reading project largely free of "word worship" -- prepared to analyze, criticize, anticipate, compare, admire, or sneer, rather than to accept passively what they read because it is in print. And their active, rather than passive approach is an aid to concentration and memory.

Reading is a task-oriented activity. Efficient reading means that one puts out energy in proportion to the task. If all reading material that one ever read were of equal difficulty and were read for the same purpose, then one should attack all reading situations in precisely the same manner. But, of course, this is not the case. The "difficulty level" of a given piece of material varies with the reader. The physicist who ordinarily reads rather slowly, may read an article in the "Bulletin of the Atomic Scientist" much more rapidly than an intelligent layman who usually reads fairly rapidly. The reason for this is to be found in the reader's differing "background knowledge."

The reading process should not be interpreted as an inflexible set of habits. The efficient reader applies both intelligence and a wide array of skills to his reading. He has learned to decide when he MUST read slowly and when he MAY read rapidly -- and has developed the ability to do the latter.

A person seeking to be informed would not be better informed if he read everything at the slowest rate that he reads anything. The businessman, the professional, faces the same problem with his required reading: the time invested in reading does not yield a uniform rate of return. Often, one must deal with a bushel of chaff to get a cupful of grain.

Efficiency in reading is based on many factors. A rather common weakness found among adult readers is the tendency to read all materials in much the same way. In some situations, this is obviously wasteful. A facile and efficient reader will have developed the ability to read different materials in vastly different approaches. As a result he will experience a "change-of-pace," that is, some passages will be read rapidly; others slowly, according to the reader's background and purpose for reading. Rate, however, is a _consequence_ and not the _cause_ of effective reading.

The belief that reading is improved by simply increasing rate has been greatly oversold to the public. Most of the reading kits on the market for home use, for example, are based on the principle of "widening eye span" -- that is, training the eye to take in a wider span of print than it has been accustomed to do. Therein lies the danger of the misuse of instruments. If one thinks _only_ of mechanically training the physical capacity of the eye to take in more words at a glance, he is looking on the reading process in a very superficial way. Furthermore, this is not only unnecessary (in most cases) but does not occur with most instruments (e.g. after-image, physiological limitations). Reading is a complex mental task requiring phycho-physiological processes of the most complicated kind.

Lester L. Van Gilder

Speed, as such, is not the goal of the businessman or professional faced with his mountains of reading. Actually, it is efficient expenditure of time and energy units proportionate to the task which he seeks. The Modern Reader must be a versatile reader.

Reading versatility enables a reader to complete a great amount of reading with surprising ease and saving of time. The versatile reader adapts his reading attitude, his reading approach, and his reading techniques to his purpose for reading, the type and difficulty of the material to be read, and his previous knowledge of the subject. ALL his reading is planned to achieve a definite purpose.

Differentiating one's reading approach to suit the kind of material seems obvious. However, a rather common weakness found in adult readers is the tendency to utilize the same reading techniques on all kinds of materials. Many attempts to achieve perfect comprehension of everything read. As a result, their reading piles up; their concentration is poor; important memoranda go unanswered--buried under unread trivia.

The versatile reader, on the other hand, will have developed the ability to read different materials in different ways. Because of his attention to purpose, the versatile reader will make any adjustments of techniques and attitudes as he reads. Through this versatility and sensitivity to purpose and nature of task, he will achieve greater concentration and retention. He will also conserve time and energy.

Lester L. Van Gilder

Readers, using a number of reading techniques appropriately, can get through much of their everyday reading at high rates of speed and miss little, if anything, of consequence to them. In fact, unless his purpose demands a high degree of comprehension, the versatile reader does not try to remember all the main ideas and details of everything he reads. He reads to meet his needs.

When the occasion demands it, however, the versatile reader reads carefully, accurately, thoughtfully. He knows how to adapt his reading approach to achieve near-perfect comprehension when necessary.

Thus, it may be seen that speed is the consequence of rather than the cause of, effective reading. The versatile reader will have a great range of speeds, varying perhaps from 100 words per minute to 2500 words per minute, because of the many different reading techniques he has at his command.

Actually, the command of and the appropriate use of the techniques of pre-viewing, skimming, scanning, making use of organizational structure, reading for main ideas, spotting essential details, and the like, make the difference between effective and ineffective reading. In addition, the versatile, that is the effective, reader does not "worship" the printed word, but approaches reading with an active evaluative attitude.

HOW CAN YOU PRODUCE EFFECTIVE READERS?

Reading versatility is not achieved by concentration on speed. Neither is it attained by practice on similar reading material or by reading for closely identical purpose. It is not the product of heavy concentration on instruments and gadgets.

Highly-trained instructors, with a thorough understanding of the reading process can help adults who possess the fundamental reading skills (such as: basic functional skills, essential perceptual skills, and adequate vocabulary) develop reading effectiveness. Such instructors will first administer standardized tests of reading versatility (of which there are several available) in order to assess the degree of reading flexibility the students already possess, and the deficiencies and weaknesses which need to be corrected. These instructors will use tests especially designed for adults.[2]

These instructors will discuss and demonstrate various reading approaches; practice will be provided in the use of different techniques, and instructors will guide their students in putting to use these techniques in a number of different reading situations. Such techniques will include: overviewing, previewing, scanning, skimming, perceiving the organizational pattern, quickly spotting main ideas, assimilating the main stream of thought with essential supporting details, and careful, detailed reading for evaluation. The student will practice selecting reading approaches to a widely varied range of reading materials for many different purposes. With carefully guided practice, and periodic testing of his progress, the student will become increasingly able to utilize the reading attitude and the reading techniques appropriate for the purpose, type, theme, and difficulty level of the reading, as well as his background knowledge.

Reading is truly a thinking act. The reader attempts to think along with the author and to react to his ideas and point of view. Just as in listening, the degree of attention and reaction is governed by the importance of the communication, the situation, and the needs of the reader. Reading, as a thinking act, can only be accomplished by reading for ideas. Effective reading can never be achieved by mechanically "scooping up" thousands of words per minute on all kinds of reading material under all circumstances. The businessman and the professional who are flexible readers will find that reading is much more enjoyable. Furthermore, they will not only complete their "must" reading but will also have time, energy, and the desire to read for cultural enhancement and sheer enjoyment.

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[1] Taylor, Stanford E., "An Evaluation of Forty-One Trainees Who Had Recently Completed The 'Reading Dynamics' Program," in First Yearbook of the North Central Reading Association, May, 1962.

[2] Braam, Leonard S., and Sheldon, William D. Developing Efficient Reading, (New York: Oxford University Press, 1959).

McDonald, Arthur S., Zimny, George and Byrne, James, Reading Versatility Test, (Advanced) (New York: Educational Developmental Laboratories, 1961).

Spache, George D., Test of Reading Flexibility, University of Florida, Gainesville, Florida, 1956.

Counseling and Reading, Their Interrelationship

by
Boyd B. Jackson
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Over the years since the early 1900's many writers have traced the growth of modern reading programs from their origin as experimental programs in psychology laboratories. The experimenters, of course, reported their efforts and very soon the teachers of English and education were teaching reading courses, and the researchers in psychology were back in their laboratories.

For years these teachers of reading programs have had to be concerned with the diagnosis of reading disabilities, the development of remedial and developmental measures, and the evaluation of the results of their student's accomplishments, and in the process of teaching lost contact with their colleagues in psychology.

Reading diagnosis most often has been accomplished by diagnostic questionnaires, tests of vocabulary, reading speed and comprehension, occasionally a test of general ability level, with sometimes a measure of eye movements and a vision and hearing test. The basic assumption in this diagnostic effort seems to have been that reading is a mechanical process and that rate and comprehension can be improved if certain eye movements are mastered or if more effective use is made of the vision. From this singular type diagnosis corrective action was planned.

Boyd B. Jackson

In addition to diagnostic tests being taken from the psychology laboratories, teachers of reading have more recently borrowed corrective training measures from the psychology laboratories -- tachistascopes, reading films, controlling devices -- but unfortunately frequently without an understanding of the limitations or values of the equipment used. The training machinery was handily adapted to training larger groups and was used as supplemental to the teachers' own tools -- texts and work manuals. Reading drills were developed to teach certain reading skills, the assumption again being these skills having been developed our student would, of course, read more effectively and efficiently.

Fortunately, the last several years our reading teachers have returned to the psychology laboratories for more knowledge and methodology.

It is in this return to the psychology laboratories that we are more interested, particularly in regard to college reading programs. It happens that I work only with college people, therefore I confine my thoughts to that group. Perhaps my comments will be as appropriate to other levels. I just am not as well acquainted with the other levels.

From the clinical and counseling

psychologists' studies of emotional and intellectual processes we have learned that reading is not just a mechanical process.

Reading, defined today, is a process of thinking, a mental process, an act performed by a reader who is a person. People, being what they are, have emotions. Therefore, the reader, as he reads, cannot very well be considered as performing a mechanical act isolated from emotions and other behavior.

Let us arrive at this conclusion more directly and logically. The small child watches others read and notes pleasure or displeasure. The parents contribute by showing pleasure or satisfaction in reading to the child or they contribute negatively by complaining when asked to read to the child. Does the child like the stories that are read to him, or are the stories listened to under duress? As you can see, the child's reactions to reading could easily be negatively or positively developed at this early age. The reaction to reading cannot just be ignored even at this early age.

A child is subjected to even more reactions to reading as he begins to school -- the teachers' feelings about reading, the child's own success or failures in reading -- leaving after such experience a new cumulative and composite reaction to the act of reading.

School, reading, subject matter, and authority figures become unconsciously but closely interrelated. School is liked or disliked frequently on the basis of reading requirements and the ease with which these requirements can be met. Subjects come in for a share of discriminatory reaction -- purely on the basis of their relationship to reading.

Books are no longer just read because the student wants to -- they are required to be read for book reports by an authoritative exterior force -- the teacher. Even books become authoritative; if it's read in a book, it is right. Printed authority gets some reaction from the reader, too.

For some, reading is a great exploration beyond the bounds of reality -- an opportunity to escape the immediate and learn of the future. Curiosity, the hand maiden of learning, is enhanced or squelched by the reaction to exploratory reading efforts.

The experiences and reactions of the student to reading in his early and teenage years are only magnified and amplified as he reaches college. The reading requirements are more rigorous, more voluminous, and in many instances more authoritative.

By this time the reader, a college student, is indeed an individuality with all the fears, anxieties, drives, desires and aspirations that a life can represent.

Reading is then a real part of the everyday behavior pattern, a pattern composed of attitudes, feelings, and reactions that have been developing for years.

Reading is not just an isolated action; as you can see, the whole student reads. We can tell much about the student by his talk, his walk, the way he stands, his attire, his social habits, and also by what and how he reads. Reading, therefore, has become a part of living and will be reacted to emotionally, by the student, as is any other part of living.

In this light, reading becomes another form of individual behavior, essential for just getting along in the college society. How the individual has learned to react to reading, in short, determines how well he gets along, and conversely, how he has reacted to getting along until now may, well determine how well he reads. In short, the varied demands of school and of society upon the student have been increasing year by year. How he reacts to these increased demands can well affect how he reacts to reading. If he resents school, he could resent reading; if he is anxious to succeed, he could read widely; if he is afraid of failing, he could be afraid to read; if he rebels against authority, he could rebel against reading. The reaction to reading is frequently an extension of the feelings about the broader aspects of his life but expressed in similar tones. Therefore, if we are to treat the reading problem, which by its very cumulative nature is interlaced with the student's life pattern, we must recognize the emotional aspects of his life and hence the resultant effects on his reading.

Emotional maladjustments evidenced as insecurity, inferiority, authority relationships, parental-sibling relationships, and anxieties are more common among our reading clientele than we realize. Their emotional maladjustments are a real part of their reading problem and will not necessarily be corrected by a skill building course.

College students who complain of reading problems may have causes for those problems much more deeply rooted than the individual's claimed symptoms -- causes that cannot be adequately diagnosed by the reading diagnostic tests commonly used today. Yet we find that in the practical situation of reading improvement courses there is little effort made by most reading teachers to diagnose and treat emotional problems in any way but happenstance.

To plan to treat some reading problems without at least an effort to diagnose and treat these common emotional problems is a bit like trying to stop the flow of blood from a severed artery by putting a band-aid on it -- a fine gesture but without much future benefit.

Boyd B. Jackson

To correct this deficiency in our reading programs, I am proposing that counseling is an important means of helping diagnose some types of reading problems and assisting in improving reading ability by bringing about favorable emotional attitudes on the part of the student.

Let us look at some of the garden variety or common emotional problems that appear to be acted out in reading. Understand, these are only the more obvious types.

The very common complaint heard from a college student is that he can't keep his mind on his reading. Very often he will pass over paragraph after paragraph with no attention whatever to the meaning, only to return and re-read the same material again and again with a very meager final knowledge. This student usually cannot even recall what he was thinking about at the time he was supposed to be reading. Upon discussing the situation further, this student will usually show indications of more than mild anxiety and frequently repression of more widespread emotional problems. He very often is behind schedule in his reading assignments, has very inadequate lecture notes -- (he can't concentrate on listening either; after all, the whole student is at work) -- and most often can't recall what the most recent assignment was to cover. Having gotten hopelessly behind in his work, he now has a good reason -- "I can't comprehend what I read," -- the claimed reason for seeking help. Training in reading skills alone will probably be of little value to this student.

A slight variation of this same type of reading difficulty is just as frequently brought to our attention. This student reports that reading is really no problem -- if he likes the material he is reading. Of course, when pressed, he can't really think of anything he likes to read or has ever liked to read. Undoubtedly this student needs traditional training in reading skills but has already learned to dislike reading -- a problem not related to skills but to the reader.

Let's look at an even more common problem -- the student who insists on laboriously reading everything word by word. His vocabulary measures well up in the top quarter of the freshman class. Comprehension is almost perfect; however, his reading rate is extremely low -- about 120 words per minute. This student is usually quick to let you know that he is afraid he'll miss something if he misses a word. His fears of inadequacy are so extreme, that to be found without the correct answer far outweighs his desire to read faster even though he is intellectually aware of the absurdity of his method. He isn't reacting to the one error he just might make, but to the broader aspect of what the error might mean -- his helplessness in not knowing, the prospect of failure. As his anxiety grows, his reading slows.

On the other hand, another word by word reader might well illustrate still another cause. Perhaps his problem of word reading is a constant factor, but he reads word by word just because this is the only way he can keep his mind on the subject -- his attention span during reading is competing unsuccessfully with several other problems, each of equal or more importance than his reading.

These three examples are possibly the most prevalent and most obvious of the emotional complexities involved in student reading problems. There are others who come to our attention asking for reading instruction who have another cause for their symptom. They are intellectually exhausting all areas of assistance, even reading training, in order that they might, with clear conscience fail, as a retaliatory measure to punish pressuring fathers, coddling mothers, or overly competitive siblings. The devious methods we humans can dream up to achieve an ultimate end is a constant source of wonder.

The last, rather prevalent group I shall mention are the subtly dependent students who ask for reading training but are hopeful that the training consists of daily appointments where they might be fed a white, green or red pill that, with no effort on their part, will bring some favorable result. They are not certain of the result they hope for; but they, without question, intend to be passive in acquiring that result. Their primary purpose for seeking help is to place their future success in your hands and as they later fail in their academic endeavors it really isn't their fault -- it is your fault. You failed. In effect you have failed if your diagnosis of the early situation left the student in the position of manipulating the treatment.

These are deliberately over-simplified but not at all uncommon reading cases that have been used to define and clarify our discussion today. As reading instructors we cannot intelligently diagnose the reading problems of our students today as if the reading process were a mechanical procedure -- an isolated act by the individual, not of the individual. Neither can we plan intelligent remedial and developmental programs without including more of the whole individual in our plans.

This is not a new or radical idea. However, due to growing numbers of people aware of their inability to read successfully, and a constantly growing amount of printed material, we tend to train masses rather than individuals. Hence, we lose track of the person as an emotionally and intellectually reacting being. Many reading training programs in our colleges and universities have recognized the emotional aspects of reading and have implemented their program to this acknowledgment. The differences of implementation of diagnosis and training in these programs are frequently only in degree or method used, which in turn are dependent upon the facilities available.

We are proposing a broader based reading program; one not entirely mechanistic in nature, yet one that makes full use of drills and mechanistic training; a program not rigidly clinical in nature, yet one that uses to the most advantage the clinical facilities available. We are proposing a reading program that includes traditional diagnosis and remedial or developmental training and in addition includes the most recent accepted practices of the clinical and counseling psychologists. We are, we feel, operating such a program and for the betterment of the whole student.

Our reading improvement program at the University of Illinois has always been an integral part of the Student Counseling Service. We have within the Counseling Service an adequate testing staff to care for group and individual testing and scoring, and the services of fifteen full time clinical psychologists.

The staff of the reading program consists of two psychologists and at least one graduate assistant. One psychologist devotes two thirds time to the reading program and the other psychologist is one-half time.

Our reading program is a voluntary, non-graded, non-credit informal class with wide operational limits. Traditional methods such as diagnostic tests, lectures, drill type manuals, supervised practice, and even the "machinery" are in use in our program.

Boyd B. Jackson

In addition, in an effort to more nearly benefit the "whole" student and not just the act of reading, we have used for several years now, two additional techniques as planned (not just incidental) parts of our reading program--free group discussion and individual counseling.

Our class sessions are organized initially so that the instructor acts as a discussion leader rather than a lecturer during the early class meetings. This format is not too difficult to accomplish as the classes are non-credit and non-graded. Therefore, the student does not expect a teacher-lecturer.

As we have noted earlier, reading improvement is not necessarily accomplished by diagnosing a student's mechanical shortcomings and providing exercises or informative lectures to remedy his weaknesses. You are frequently aware of inefficiencies in your own methods but you do not change those methods just because someone suggests supposedly better methods. The student might need to understand his own needs for desiring a change in his reading before the change becomes, in effect, his. Therefore, to lecture a class on the methodology of reading is very often a repetitive "Yes, I've heard that," session. However, to allow a class first to freely define and find the commonality of the students' reasons for being there, and in additon, to realize as a group that they are already aware of many of the needed answers to their problems but just haven't applied those answers, brings about considerably more impetus to work on all corrective measures.

For this reason, it is in these early sessions that the importance of the individual's needs and attitudes toward reading are brought out, evaluated and recognized as perhaps hampering to efficient reading.

We have found that, during the early class discussions, students very freely indicate excessive fears, anxieties and compulsive habits as they relate to reading. Apparently, the student philosophy is that reading problems are perfectly socially acceptable; therefore, there is no stigma attached to emotional reaction to reading.

The instructor, at every opportunity, develops the relationship of emotions to reading and suggests the desirability of, and opportunity for, counseling as a supplement to classroom reading instruction. Under these circumstances about sixty-eight percent of the students in reading groups seek additional individual counseling.

These students made an average of five counseling appointments, with a range from one appointment, to one student who had been seen twenty-eight times and would undoubtedly continue to have appointments the following semester. In a follow-up of the counseling interviews, the students were found to have discussed changes in college curriculum, reasons for enrolling in college, parent expectations, teacher-student relationships, dating and sex problems, felt anxiety reactions and extreme depression. The reading training counseling oriented classes have shown greater improvement and more rapid progress than the non-counseling oriented groups. These are only a few of the findings, but enough to substantiate a definitely closer relationship between reading improvement and counseling.

Obviously, there is a limitation for any reading program that desires to become more counseling oriented. Realistically, all reading programs are somewhat counseling oriented in that they give the student attention, support, and perhaps some opportunity for catharsis. However, to become more counseling oriented, a reading program must have a counseling service available and be willing and able to establish a two-way cooperative communication between the two services. The reading specialist and the counseling psychologist need to combine their efforts into a coherent program of betterment for the whole student.

A reading program that is more counseling oriented reduces the almost indiscriminate use of drills for all students and provides an opportunity for individualization as a supplement to group work. Counseling is an important means of improving reading ability by reducing emotional barriers to reading and emphasizing the individual's participation in the act of reading.

Recent Research In
College and Adult Reading

by

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University of Minnesota

The purpose of this paper is to present research in college and adult reading published since the preparation of Summer's report (22) presented at the 1961 NCRA conference. Only studies appearing in print for the first time are reviewed. Studies presented in the First Annual Yearbook of the North Central Reading Association as well as articles of a non-research character are not considered. This is not a comprehensive summary of all published articles concerning college and adult reading during this period. For such a summary the reader is referred to the yearly reviews in the Yearbooks of the National Reading Conference. The reports to be treated this year are grouped in three areas: reading programs -- descriptions and evaluations; reading habits, traits and characteristics; and skill effects, tests, comprehension, and others. The most frequently used source was the Journal of Developmental Reading.

Reading Programs: Descriptions and Evaluations

Several studies appearing during the last twelve months relate to the evaluation and description of programs of adult and college reading. Seven studies will be considered.

Colvin (7), reporting on college reading programs in Pennsylvania operating in 1957-58, presented a composite picture of the results of his survey of 42 colleges and universities. The typical reading program included classes meeting five hours weekly in groups of 18 students. A twenty-five dollar fee and class time largely devoted to non-machine teaching techniques were also characteristic of the Pennsylvania programs. Six recommendations were presented, among them further studies of the training and qualifications of college teachers of reading.

In a study investigating the effects of a twenty-four hour reading course, Bloomer (2) employed forty randomly selected freshmen. In this study the experimental group gained significantly in both speed and comprehension. Gains in reading skills were not related to academic achievement or gains in academic achievement. The author concluded that variables other than reading ability are affected by the reading course and these variables result in superior academic achievement. A further conclusion stated was that reading improvement is maximized when students are selected with low initial reading test scores and intelligence test scores not greatly higher in terms of percentiles. Bloomer pointed out that students with a high intelligence and low reading abilities are often assumed to profit most from a reading-learning experience. A negative correlation, -.53 in this study, indicated that the students whose reading abilities tended to match or exceed their ACE scores did better than students with intelligence scores higher than their measured reading ability. These results suggest, stated the author, that the testing instruments, the teaching instruments, and materials need to be re-examined if academic improvement is the goal of a college reading program.

Spache (7) reviewed claims of magazine and newspaper reports regarding the work of the Reading Dynamics Institute and presented student data collected before and after training by instructors of the Institute. Utilizing camera and comprehension checks, he found that students show a small average rate gain of 20 to 25 per cent; in the test selections the average rate was between four hundred to six hundred words per minute, with the fastest rate at 900 words per minute. In skimming exercises various groups covered 1800 to 2400 words per minute; gains in comprehension were less than 5 percent -- averaging about 70 percent; and comprehension in skimming was weak -- averaging about 50 percent after training. Contrary to some reports, the author, using eye movement records, found the students generally making one fixation per line while skimming and not reading large portions of the page at a single fixation. Spache states that his findings and conclusions are not intended to disparage the work of the Institute, since some degree of reading improvement is attained by its pupils. His intent was rather to examine scientifically some of the newspaper and magazine reports regarding the Institute's methods and results.

The effect of Wood's dynamic reading method was also investigated by Liddle. (10). Fifty selected junior students after 32 hours of instruction over a twelve week period were randomly assigned to an experimental and a control group. Significant gains in rate were reported for the experimental group on both fictional and non-fictional materials. No significant gains were achieved in comprehension and in the case of the fictional materials, a significant negative difference was reported by the experimental group. Reliabilities of the experimenter-constructed tests ranged from .46 to .69.

A five-year project financed by a Carnegie grant and sponsored jointly by the Brooklyn Public Library and Brooklyn College was described by Siegel. (16) There was no charge for the program -- the applicants were tested and then assigned to small groups. Topics relating to reading needs, interests, problems, attitudes, etc., were discussed. Language arts personnel, librarians and clinical psychologists participated in the program. Machines, workbooks and a wide variety of reading material were all in use. A reader's advisory staff was established to guide the students' outside reading according to their needs and interests.

Approximately seventy per cent of those applying completed the course with an average group size of 8.2. Significant gains in both speed and comprehension were reported for most groups, though no actual data was included in this article. Gains in both speed and comprehension were retained after a six-month interval. The greatest gains in reading achievement appeared to be associated with level of intelligence and age, the brighter and younger students making the greater gains. Group, sex, education or personality adjustment did not appear to be related to reading achievement. Almost 2500 people applied for entrance, 145 groups participating in all. Professional and clerical workers represented the bulk of those applying for and entering the program. Desire for increased rate and a better understanding of books was the principal motivation. Siegel concluded his report with twelve suggestions intended for the use in other joint projects involving libraries and local colleges.

In an exploratory study Wood (24) investigated attrition as a criterion for evaluating non-credit college reading programs. His findings did not support the hypothesis that attrition is associated with personality and motivational characteristics of students. The second hypothesis, that attrition is associated with certain measures of the instructional situation, received moderate confirmation. Significant findings included that dropouts were most frequent among students who had friends in classes, and also among those students whose classes met at eight a.m. or five p.m. Interestingly enough, and least significant (215) was the tendency for dropouts to occur in classes taught by experienced instructors. Seventy-eight per cent of the dropout group responding to a questionnaire indicated their reason for dropping as follows: 42 per cent pressure of other activities; 27 per cent dissatisfied with the course; and 31 per cent miscellaneous. Objective evidence of reading gain supported in a general way the pattern of the results of the questionnaire. However, student reasons for dropping out did not significantly compare to measure of improvement in the course so as to constitute an adequate criterion of evaluation. Intra-class variables, the author suggests, need further control and manipulation to observe their effect on attrition.

A. Garr Cranney

Reading Habits, Traits & Characteristics

Three studies were published relating to reading habits of college populations. In a questionnaire study of 256 Mississippi Southern students, Staiger (18) investigated the question, "Do college students read for pleasure?" Forty-two per cent of the respondents reported personal libraries which included one to twenty books. The great majority of the total group, however, brought only one to five books to school. Other findings reported included that 46 per cent had read one to five books the previous summer, while 17 per cent had read none at all. Thirty-seven per cent had never or rarely used the college library for pleasure reading. Sixty-four percent of the total group suggested the title of the next books they might read, while 86 per cent could recall the title of the last book they had read. A frequent complaint, reports Staiger, was that the student has no time for pleasure reading. Yet apparently, according to self reports, some students had found time to read extensively. The author stated that his is a preliminary report on a much larger student sample, which will employ data on the backgrounds of each student. A further report, due to be published next year, will be of interest in this regard.

In another survey of 282 incoming Junior College Freshmen, Fortenberry (9) found that 25 students devoted 28.8 minutes per day to newspaper reading. The preference of magazines read for non-school purposes was, in order: "Life," "Look," "Saturday Evening Post," and "Reader's Digest." The parts of the newspaper preferred were local news columnists, sports, and current affairs. The author stated that his data were comparable to interests of similar populations in four-year degree-granting colleges.

A survey (21) reporting books withdrawn during a ten-year period from a London University dormitory library indicated Waugh, Aldous Huxley and Greene, in that order, were authors whose books were most borrowed. Hemingway, the first American author to appear on the list, was ranked in fourth position. Interestingly enough, two of the three most read books were authored by Hemingway. The four most read books were, in order: _All Quiet on the Western Front_, _A Farewell to Arms_, _For Whom the Bell Tolls_, and _The Decameron_. An analysis of about 5,000 library slips indicated that Arts and Science students who borrow averaged about five books each per term.

A questionnaire study (14) of 467 responding college librarians in 41 states concluded that college students are reading more non-required books and more quality non-fiction than their predecessors of ten years or more ago. Almost forty per cent of the librarians believe that today, College students have better taste in reading. Thirty-one per cent, however, believe that their taste is worse. The impact of the availability of quality paperbacks was indicated by over 75 per cent of the librarians. Representative comments from the respondents as well as comparison of findings with a sample of bookstore managers were also presented.

A survey (3) of more than 200 public libraries in cities of over 50,000 population, conducted by the American Library Association, concluded that adult book circulation had increased 29 per cent in the last five years. Circulation growth is far greater in non-fiction than in fiction, with much greater interest shown in science and technology than formerly. The most popular authors of fiction were Hemingway, Slaughter, Sonte, Uris and Michener. Twenty-seven per cent of the librarians also reported a growing interest in political conservatism, with more than 50 per cent of those reporting in the South and West commenting on this interest. A major finding indicated the impact of TV and the mass communications media on the use of the library and direction of reading interests. Information on avocational and geographical interests of library users was also reported by the 50 per cent of librarians responding to the questionnaire.

Woolf (25), using the TAT, studied two matched groups of students, one reading up to capacity and the other with reading disability. Significant differences in favor of the poorer readers were found in the following needs or traits: need - agression, need - nurturance, need - affiliation, and need - sentience. The forty-three poorer readers were described as having feelings of inadequacy and failure, lacking affection, and were on the whole more inhibited, gloomy, and stereotyped than the group reading up to capacity. Generally, they tended to express aggression in a passive and inappropriate manner. The group reading up to their abilities were characterized by adjustment to their surroundings, realism in their aspirations, and ability to use aggression to rid themselves of tensions. Their aggression tended to be suited to the occasion and was usually not passive. Excerpts from the subjects' TAT responses were included in the report.

Skill Effects, Tests, Comprehension and Other Areas

Speed of idea collecting, defined as the total process of reading and outlining, was investigated by Stone (20). Training was given sixty-two students in a study method involving motivation, identifying key material and notetaking.

The experimental group gains significantly in outlining speed -- increasing from 280 words per minute at the end of twelve additional trials. Changes in speed, the author concluded, were related to three variables of idea collecting: the level of detail, the degree of originality, and the cue system employed by the notetaker.

Bloomer (1), in a study using the Cloze procedure in a non-credit remedial reading course, found a significant increase in reading comprehension scores and in college grade average at the end of the year the students enrolled in the program. The control groups were employed. The experimental group was required to fill in fifty missing words in each of ten exercise levels with 96 per cent accuracy. No significant rate increases were obtained between control and experimental groups. The author cautions against the use of such a procedure with persons below the junior high school reading level, but recommends its use with adults having difficulty with reading comprehension.

Two studies relating reading to testing were published. Shien (15) studied 271 college students and concluded that timed group intelligence tests are not a more valid indicator of ability for superior readers than for retarded readers. Superior and retarded readers were defined in terms of Iowa Comprehension scores. The short-form Wechsler Adult Intelligence Scale was also administered to each subject. Using the Wonderlic Personnel Inventory, he further concluded that the validity of the test does not decrease more for retarded readers than for superior readers as testing time decreases. A final conclusion stated was that the partialing out of reading comprehension does not increase the validity of group intelligence tests.

McCord (11), investigating changes in I.Q. scores after reading training, found gains of 19 and 11 I.Q. points in two student groups. Thirty-five hours of reading training were given each group. The first group was then administered the California Capacity questionnaire and the second group the short form of the California Mental Maturity test. After initial testing, no person in total sample was considered a problem reader. Since the study was not controlled and the groups were small, the results could only be considered as speculative. The author concludes, however, that a relationship between gain in I.Q. and participation in an adult reading course seems to be strongly indicated.

Comprehension was investigated in three studies. Vernon (23) administered seven specially constructed tests of vocabulary and reading in two sessions to groups of 75 American and 108 British college students. A test in which the questions were not seen or answered until after the completion of the reading of all of the passages appeared to measure a somewhat different ability from the conventional immediate comprehension test. It was found to be considerably more valid than the latter in the prediction of academic achievement. A further conclusion stated that the writing of essay type answers to some of the tests did not, as had been hypothesized, involve a different ability from the objective or multiple-choice type of response. British students, on the objective type of question, however, demonstrated an unsophisticated and relatively unorganized approach. The author presumed that the familiarity of American students with the multiple choice type test constitutes a valuable study skill, and makes suspect the finding of a comprehension factor unrelated to a vocabulary factor. In the case of the American students the comprehension factor was found to have low validity in predicting achievement. Among the British students its validity is slightly negative.

Reporting the results of comprehension of prose materials when read silently and aloud, Collins (6) found significant results in favor of the oral readers. In this study two matched groups of San Jose City College freshmen read seven passages of varying difficulty levels. Collins suggests that oral reading might well be stressed in working with students with whom comprehension is a problem.

Coleman, in another study (5) employing the Cloze procedure, investigated the effect of shortening sentences on comprehension. Three versions of varying sentence length of three rather difficult prose passages were administed to nine groups. Students were given fifty seconds to read each passage and were asked immediately to fill in the Cloze test. The test consisted of original passages with every fifth word deleted. Significant comprehension improvement of about 6 per cent was reported in favor of the short sentence versions.

Relative to recent interest in chemical and neural considerations in reading, Staiger reported a study (19) on the effect of a drug administered to a group of readers. Deanol, a drug believed to heighten neural activity, was given to sixty pairs of retarded readers, among them twenty-two pairs of college sophomores. The students were tested by a portion of the Gates Reading Survey and a test of clerical skills. The laboratory group received two doses of the drug per day during an eight week period. Though the findings were not significant, clerical speed and accuracy improved on each of three levels. Reading, however, was not influenced to any great extent. The author stated that further research may eventually enable clinicians to prescribe drugs for certain students whose reading disabilities stemmed from low levels of neural activity.

McCord (12), described the psychogalvanometer, an instrument which measures changes in emotional level through activity of the sweat glands. Students are asked to free associate to stimulus words such as "teacher," "reading," "school," etc. Responses are measured according to a meter recording the length of time to elicit the response, and the quality of the response given. He reported the instrument to be useful as a means of assessing personality diagnosis of students in need of remedial reading help.

Martin (13) studied refinement of a Dale Chall readability formula. She indicated that the enormity of effort currently required in measuring readability is a barrier to both research and application. Using the Dale Chall readability formula, ten hours, she states, is required to measure one 600 page textbook. Examining eight colleges' introductory psychology texts, the author concluded that word samples drawn at fifty-page intervals could, for practical considerations, replace the ten-page interval samples required by the formula. For strictly research purposes, however, the author suggests that this shortening of the readability measure may not be justified.

REFERENCES

1. Bloomer, Richard H., "The Cloze Procedure as a Remedial Reading Exercise." _Journal of Developmental Reading_, Spring, 1962, V: 173-181.

2. Bloomer, Richard H., "The Effects of a College Reading Program on a Random Sample of Education Freshmen." _Journal of Developmental Reading_, V: Winter, 1962, 110-118.

3. Brickman, William W. (Editor), "National Trends in Public Libraries." _School and Society_, 90: Summer 1962, 250.

4. Brickman, William W. (Editor), "Pre-Registration Reading by Freshmen," _School and Society_, 90: Summer 1962, 250.

5. Coleman, E. B., "Improving Comprehensibility by Shortening Sentences." _Journal of Applied Psychology_, 46: April, 1962, 131-134.

6. Collins, Ray, "Comprehension of Prose Materials by College Freshmen When Reading Silently and When Read Aloud," *Journal of Educational Research*, 55: October 1961, 79-82.

7. Colvin, Charles R., "What is Being Done in College Reading Programs in Pennsylvania," *Journal of Developmental Reading*, V: Autumn 1961, 70-72.

8. Fley, JoAnn, "Two Innovations in Freshman Orientation: The Use of Educational Television and Summer Reading Programs," *National Association of Women Deans and Counselors*, 25: June 1961, 181-188.

9. Fortenberry, Warren D., "Magazine and Newspaper Reading of Junior College Freshmen," *Journal of Developmental Reading*, V: Autumn 1961, 67-69.

10. Liddle, William, "Results of Experimentation on the Wood Reading Technique," *Proceedings of the College Reading Association*, Easton, Pennsylvania, III, Summer 1962, 13-15.

11. McCord, Hallack, "Increase in Measured I.Q.," *Journal of Developmental Reading*, V: Spring 1962, 214-215.

12. McCord, Hallack, "A Note on the Use of the Psychogalvanometer as an Aid in the Diagnosis of Certain Persons With Reading Difficulties," *Journal of Developmental Reading*, V: Winter 1962, 137-138.

13. Martin, Mavis, "Refinement of a Readability Formula," Eleventh Yearbook of the National Reading Conference, Milwaukee, Wisconsin: The Conference 1962, 131-138.

14. Mersand, Joseph, "The Reading of Today's College Students," Wilson Library Bulletin, 36: November 1961, 238-241.

15. Shein, Samuel T., "The Influence of Reading and Time Variables on Group Intelligence Tests at the College Level," Dissertation Abstracts, University Microfilms Inc., Ann Arbor, Michigan, 22: Part I, 1962, 4275-4276.

16. Siegel, Max, "Adult Reading Improvement: A Five Year Report," The Reading Teacher, 15: January 1962, 246-253.

17. Spache, George D., "Is This a Breakthrough in Reading," The Reading Teacher, 15: January 1962, 258-262.

18. Staiger, Ralph C., "Do College Students Read for Pleasure?", Eleventh Yearbook of the National Reading Conference, Milwaukee, Wisconsin: The Conference 1962, 165-173.

19. Staiger, Ralph C., "Medicine for Reading Improvement," Journal of Developmental Reading, V: Autumn 1961, 48-51.

20. Stone, David R., "Speed of Idea Collecting in University Study-Reading," Journal of Developmental Reading, V: Spring 1962, 149-156.

21. "Student Taste in Books," The Times Educational Supplement, No. 2426: November 17, 1961, 689.

22. Summers, Edward G., "Recent Research in College and Adult Reading," First Annual Yearbook of the North Central Reading Association, 1: May 1962, 1-15.

23. Vernon, P. E., "Determinants of Reading Comprehension," Educational and Psychological Measurement, 22: Summer 1962, 269-286.

24. Wood, Roger L., "Attition as a Criterion for Evaluating Non-Credit College Reading Programs," Journal of Developmental Reading, V: Autumn 1961, 27-35.

25. Woolf, Maurice D., "The TAT and Reading Disability," Eleventh Yearbook of the National Reading Conference, Milwaukee, Wisconsin: The Conference 1962, 180-188.

Reading Training for Industry

by

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At the Syracuse University Reading and Language Arts Center we are involved in virtually every phase of the reading area - teacher training, diagnosis and remediation of reading problems for all ages, research, school programs, reading and study diagnostic and improvement programs for college students, and development of efficient reading services for adults and industrial personnel.

Since 1925 Syracuse University has offered a program in reading and study skill instruction for its students. It has been only since the late 1940's, however, and more specifically since the middle 1950's that we have been directing a concerted effort to provide instruction in reading efficiencey for adult and industrial personnel. Space will not permit a complete description of the program, its philosophy and methodology, but let me attempt at least a thumb nail sketch.

Courses and programs for adults who are not full time students are sponsored and coordinated by, and for the most part are conducted at University College (Syracuse University's adult education division). In cooperation with the Syracuse Manufacturer's Association area business and industrial personnel are offered a Management Development Program designed to develop effectiveness in communications, supervision of men, and business management.

One half of this total program which is composed of four thirty-week segments is devoted to the area of personal effectiveness in communications. In addition to efficient reading this includes effective writing, efficient listening, effective speaking, supervision, and conference leadership courses. These courses are attended by representatives from various area manufacturers and are held at University College.

In addition, courses are also conducted for single companies. In such cases sessions are held in company provided facilities and usually on company time.

Class size in both instances is limited to a maximum of 20 students who represent as nearly as possible the same level of company organization. The obviously helps to maintain some homogeneity in respect to educational background, general ability, etc. among the students.

For both groups two-hour sessions are held once per week for a minimum of twelve weeks. For the Management Development students classes are held in the late afternoon or evening. For the single industries classes are held at various times of the day.

Our program is basically non-machine oriented although we do have, and to a very limited extent do use, machines. In our experience the limited improvement resulting from short, relatively widely-spaced exposures to machine use has not been sufficient to justify their intensive use. In addition we are much concerned with development of flexibility as a vital aspect of efficient reading as a basically intellectual or thinking process. In this respect we place heavy emphasis upon consideration of the purpose for reading, familiarity with the topic, and the difficulty or complexity of the printed material as these factors effect the reading rate and comprehension level of the efficient reader. In our opinion mechanical devices are too rigid and inflexible to lend themselves to an effective major role in this type of program for most participants.

Instead we use all types of printed materials including the lowest level Reader's Digest Skill Builders, professional journal articles, paperback novels, samples of daily routine letters and reports typical of those crossing the desks of our students, and various commercially prepared high school and college reading improvement workbooks, (including, of course, Sheldon and Braam's _Reading Improvement for Men and Women in Industry_!)

Parenthetically, let me emphasize that we strongly feel that material used to develop initial increased reading rate should be of high interest level but very easy in respect to vocabulary, sentence structure and length, and concept content. Furthermore, this material should not present professional or job related, or emotional involvement. Nor should it be of the type which places the reader in a position of feeling undue responsibility for acquiring new information. For example, it does not appear psychologically sound to present individuals with material for the purpose of developing initial rate increase which tells them how to increase reading rate. Use of such material tends to place the individual in a position of being too concerned with new ideas, concepts, and content, to be able to focus adequately on development of rapid reading skills.

We attempt to help our students develop some understanding of, and insight into, the various complexities of the reading process. We point out to them the common strengths and weaknesses of good and poor readers respectively, and the effects these characteristics have upon the reading process. We then provide them with situations in which they can practice and gradually develop good reading patterns by applying reading skills to materials of various types and of increasing complexity. Each two-hour session invariably includes three segments of the session but which emphasize reading rate, comprehension and vocabulary.

Although we feel that our programs have been in general quite successful there are still numerous questions which need to be resolved. For example, although we have found that for most individuals a period of less than twelve weeks duration does not produce satisfactory results within the format of our program we are not yet sure what constitutes the optimum course duration. We almost always are confronted with the question of what would some of these individuals do if we only had a few more weeks to continue working? What would happen if we could reassemble the group after, say a six month period, for another series of sessions? What would happen if we could meet with our groups several times per week rather than only once? I am continually intrigued by the question of what factors and characteristics operate to cause some individuals to make almost immediate and tremendous changes in their reading patterns while it takes others weeks and perhaps months to evidence change: and if these factors can be identified, how and to what extent can we manipulate them to produce more rapid change? I am convinced that much of this is related to attitude and the degree to which individuals possess an internal motivation to bring about change.

Obviously we do not have the answers to provide an optimum program of instruction, but at the same time this in itself is one of the most challenging aspects of the whole idea of improvement of reading efficiency. Results are sufficiently gratifying that they provide an impetus to continually introduce innovations and strive for improvement.

Reading Improvement at Firestone

by

Glen D. Cross

Firestone Tire & Rubber Company

In the fall of 1960, certain of our technical personnel indicated an interest in taking a Reading Improvement Course. Investigation was made of how we might proceed to use our own training personnel in putting on such a course. Various approaches and pieces of equipment were checked in this investigation. After considering the different methods of putting on a Reading Improvement Program, it was finally decided to contact Dr. Peter J. Hampton, Director of the Psychological Services Division of the University of Akron, and ask him to conduct the course for us. We had previously used Dr. Hampton in some psychological testing programs.

Dr. Hampton was agreeable to putting on such a course on our plant premises, having done so for other industrial firms previously.

Invitations then were sent to selected technical personnel to attend a planning meeting relative to the Reading Improvement Program. As a result of this meeting, we had sixty requests to take the course. Inasmuch as Dr. Hampton did not feel that he could handle more than forty-four at one time, the additional sixteen applicants were promised that another course would be made available to them later.

The course started immediately and was given once a week after working hours from 5:00 p.m. to 6:30 p.m. The course consisted of twelve sessions and all employees who successfully completed it were refunded the tuition cost for the course.

To date, we have had three groups complete the program, with a total of 118 graduates. The entire enrollment in the first two groups was made up of technical personnel, whereas the third group consisted of twenty-five non-technical personnel in a total number of thirty-six.

We have not as yet publicized the program generally in order to obtain applicants for it since we did not want to turn down a large number who could not get into the program at a particular time.

The reception to the course has been excellent and we have had no complaints as to the course content or as to how it has been put on. The attendance has been nearly perfect except for unavoidable absences due to illness or in cases where employees have been sent out of town on company business.

The following table shows the increase

in reading speed of the 118 graduates of the course:

Per Cent Increase In Reading Speed	Percentage of Total Enrollment Taking Program
0-50 Per Cent	35.6 Per Cent
51-100 Per Cent	38.1 Per Cent
101-150 Per Cent	20.3 Per Cent
151-200 Per Cent	4.2 Per Cent
201 or Over Per Cent	1.7 Per Cent

With the great increase in reading speed, one would assume that there would be a substantial decrease in comprehension. We do find that there is a loss of comprehension in some cases. However, the comprehension of 29.6 per cent of those taking the program has remained the same or improved at the increased reading speed. Another 44.1 per cent had only a slight loss in comprehension.

We have had some outstanding examples of individual improvement as follows:

1. Reading speed increased from 250 words per minute to 600 words (140 per cent) at no loss in comprehension.

2. Reading speed increased from 328 words per minute to 1,000 words

(205 per cent) with no loss in comprehension.

3. Reading speed increased from 328 words per minute to 500 words (53 per cent) with an increase of 82 per cent in comprehension.

4. Reading speed increased from 550 words per minute to 1,400 words (155 per cent) with a loss of only 25 per cent in comprehension.

5. Reading speed increased from 407 words per minute to 890 words (119 per cent) with loss of only 11 per cent in comprehension.

We feel that the program has been quite successful to date and plan to continue it and make it available to more of our people. With the tremendous amount of reading that is going over the desks of our employees, it is necessary that they be equipped to read with at least a fair amount of speed if they are to complete their work load successfully. Anything that we can do in our training efforts to help them accomplish this, we feel, is most desirable.

Reading Training in Industry

by

Byron L. Svetlik
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In establishing and conducting a reading improvement program in an industrial setting, one must consider two important facets of such a program. One of these is the usefulness of the program in terms of real improvement in effective reading for the participant. The other facet concerns the very practical problem of establishing the length of the course so that the busy executive is able to derive maximum benefit from the training in spite of frequent interruptions in his practice schedule, and in spite of his finding it impossible to attend some of the classes. In any program of ten to fourteen sessions, we find executives who must drop out due to conflicting schedules and still others who fail to attend some of the meetings.

In view of this, the instructor should realize that his end result must be a compromise between the idealized goals of the training and the availability of the executive to attend classes. Dr. McConihe (1) has reported in the Journal of the American Society of Training Directors on the effectiveness of a brief four-meeting-reading training program. This program resulted in a mean gain of 90% in reading speed for the participants with no loss in comprehension. Subsequent to this, we developed our Executive Reading Programs and In-Company Training Programs around the concept that reading skills can be effectively enhanced with brief training if two assumptions can be made. First, that the participant possesses fundamentally sound reading skills. Secondly, that because the Trainee has good reading skills we can help him develop habits which will lead to more flexibility in his approach to reading and consequently to increased speed and comprehension, or both. The main point is that we are certainly not teaching the student to read in a short program; but we can change his set toward reading. We get the student to utilize what skills he has more effectively. This is the goal of a brief program.

Let us see how these assumptions determine the length and content of such a training program. The Executive Reading Training Programs at our center are six sessions in length, and the In-Company Training Programs are seven sessions, including a preliminary meeting. Each session is two hours in length. The group size is limited to 15 for the Executive Programs and to no more than 25 for the In-Company Programs. This maximizes individual attention to each participant, which is an all-important consideration in any reading training program. No matter how well you try to equate the reading skills of the group members, you always have some relatively poor readers as well as some relatively excellent readers as compared to the average of the group.

The participants' reading skills are evaluated using the Cooperative Reading Test C2 (Form T) and a rate check. Regarding the use of mechanical equipment, Rateometers are provided for each member. These are used with material of interest to the reader which is of appropriate reading difficulty level. The pacers used between sessions are devices to keep the reader moving along. The PerceptoScope is used in class to give the student practice with tachistoscopic presentation of digits and phrases. Also a selection from the film series of stories is given under progressively faster speeds. The purpose is to compare how the trainee reads under controlled conditions with his reading speed under free reading conditions.

Intersessional reading assignments are provided for practice and to illustrate important areas in the reading skills discussed in class. Between sessions the student uses workbooks containing short selections. The workbook is used by the student to obtain a frequent check on his rate and comprehension. It is important that the student have immediate feed-back as to his success in terms of what comprehension he is holding at this present speed, or at the higher speed he is attempting to master.

Short reading tests are given weekly in class to evaluate the members rate and comprehension. This data is graphed so that the reader has a current record of his achievement.

The reading materials employed in class are not at a high difficulty level. The difficulty level probably runs between the 8th and 12th grades. The reader can achieve success rather easily in reading at high speed and with good comprehension; this in turn usually leads to greater effort on the part of the participant. Another benefit for the reader that he will utilize later is the practice he gets in developing adequate eye movements to enable him to read at high speeds.

The whole idea is to get the reader accustomed to rapidly reading through a piece of writing. This we believe will help change the reader's attitude toward reading from the feeling that he must use a slow, deliberate, plotting thorough reading procedure on every piece of writing to a more flexible and thoughtful approach where he undertakes minimum reading to select only the information he desires.

In order to help the reader further develop this thoughtful and flexible approach toward reading, basic information about the reading act is discussed. In the lecture-discussion part of the course we cover such things as the relationship between purpose, rate and comprehension; the importance of determining your purpose before reading an article; key words; phrase reading; transitional words; how to handle scientific articles, and critical reading. It is obvious that we cannot go into detail in every area, but we can make the reader aware of the importance of some of the things that underlie good reading skills. We have found that reviewing the elements of organizational structure and arrangement in writing particularly helpful. Each article provided for main idea reading in the intersessional assignments is analyzed for its organizational structure as well as its main idea.

In short, we utilize easy reading material to get the reader up to high speeds with good comprehension, teach the reader various reading techniques and give them practice under controlled conditions so that following the course they are ready to practice independently with difficult material to further refine their reading skills.

As yet, we have not undertaken a statistical analysis of the results of this approach toward reading training. However, I have selected relevant data from our files and computed an average gain in words-per-minute and changes in comprehension. For two industrial programs for which we had comparable data (these programs are tailored to the need of the group, consequently the same tests are not always used) with a sample of 34 cases, in a seven-session training program, the participants showed an 84% increase in speed with no change in comprehension. Analysis of the data from our Executive Classes at the Reading Center taken from the last few years, based on a sample of 103, showed that the mean gain in speed was 98% for the six-session class, with the readers' comprehension changing from 73% to 70%. Short reading tests were used to evaluate the readers' gain in words-per-minute and comprehension level. The drop-out in both of these programs was negligible.

Byron L. Svetlik

Finally, I would like to note some recurring problems. The Executives report they would like to be able to make a daily check on their speed and comprehension. To meet this need, we are at present considering selecting a workbook with sufficient short selections to enable him to use three or more of these a night for evaluating his achievement, and just as important, for practice.

Another problem that crops up is the differing status levels of the participants in the In-Company programs. Unless carefully controlled, this leads to very unresponsive groups -- no one is likely to challenge the Chairman of the Board about the correctness of a main idea.

Still another problem comes from the fact that reading training has become something of a fad. Some individuals register for these programs because it is "the thing to do" rather than from a sincere desire to improve their reading skills. These individuals want to treat such programs as lecture courses and can find thousands of reasons not to practice. This is really a problem of internal motivation.

Finally, there are the members of a training group who fall at the extreme ends in the range of reading skills -- either high or low. Yet for various reasons it is inadvisable to drop out these members from a training group. Providing special materials and varying the training methods to accommodate these cases can make administrative detail prohibitive.

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1. McConihe, Esther J., "A New Approach to Industrial Reading Training," Journal of American Society of Training Directors, II, May-June, 1957, 30-33.

Reading and Study Skills: A Balance

by

Mrs. Herbert E. Ketcham

Lafayette College

I would like to share with you some of my thoughts about the ideal balance between reading and study skills in the typical non-credit course given for incoming freshmen who, through screening tests, might be presumed to encounter some academic problems in the course of their freshman year. To do this, it seems best to me to review the development of our reading and study course at Lafayette College with an analysis of the changes in the course over the years, the reasons for those changes, and the results of those changes.

First, however, let me tell you a bit about Lafayette College. It is an all male college of 1600 students situated within one hundred miles of New York City in Eaton, Pennsylvania. It offers degrees in liberal arts, sciences, and engineering. The student body is largely made up of men from Pennsylvania, New Jersey, and New York, although many students do come from 30 other states and many foreign countries.

Back in February, 1954, when I first began the program at Lafayette, no one among the faculty or the administration knew anything about what he wanted taught in this course. All that I was told was that the program was supposed to reduce attrition of our freshman class. I am certain that this point is uppermost in the minds of most administrators when they agree to initiate such a program. Most of us are judged by whether or not we can show improvement in freshmen grades and the reduction of attrition in the freshman class. Whether or not this is a valid way to judge a reading and study program is a debatable question beyond the scope of this paper. However, it is one aspect of the program which can readily be checked.

In the early stages of development of the Reading and Study program at Lafayette, classes of 10 students each met three times a week for seven weeks. Emphasis was placed primarily on Reading Skills. These included the following:

1. How to read for *main idea*.
2. How and when to read for *detail*.
3. How to improve reading vocabulary.
4. How to outline and summarize.
5. How to evaluate what is read.
6. How to read for implications.
7. How to adjust reading rates.

Classes were conducted by the lecture-demonstration-practice method. Practice was given in reading workbooks and regular college textbooks. Machines were used but only for their motivational value.

Students who were enrolled in the reading program were very enthusiastic and almost all of them showed remarkable improvement in rate, comprehension, and vocabulary according to *standardized tests*. Three typical students were as follows:

Student A, 26 year old Freshman, Veteran
Speed 130 words per minute - 329 words per minute
Comprehension 80 percentile - 82 percentile
Vocabulary 53 percentile - 80 percentile

Student B, 18 year old Freshman
Speed 130 words per minute - 410 words per minute
Comprehension 25 percentile - 78 percentile
Vocabulary 60 percentile - 80 percentile

Student C, 16 year old Freshman, Ford Foundation
Student - entered college after two years of
High School.
Speed 251 words per minute - 508 words per minute
Comprehension 70 percentile - 90 percentile
Vocabulary 90 percentile - 93 percentile

Beginning with the freshman class entering in September, 1955 -- that is the Class of '59 - all freshmen were tested and those in the lowest quarter of the class on the Co-op Reading Test were recommended for the Reading and Study Course. First term course grades of those who took the course were studied in detail to determine whether the Reading and Study Course was effective in reducing failure. The following chart indicates the result of this study:

	Class of '59 as a whole	Class of '59 Students in Reading & Study
No failures	58%	50%
1 failure	22%	15%
2-5 failures	20%	35%

It was apparent that the Reading and Study Course helped students somewhat, but not to the desired extent. If only 20% of the class as a whole had multiple failures, then certainly 35% of those taking the Reading and Study Course should not have had multiple failures.

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I began to search for ways to improve the results of the Reading and Study Course, at least in this area. First of all, the course was lengthened to a full semester, twice a week. Secondly, study skills were introduced by the use of lectures on the following:

1. SQ 3 R method of study.
2. Taking Lecture Notes.
3. Making Reading Notes.
4. Studying for an Examination.
5. Taking an Essay Examination.

The results of this change were studied with the class of '60. These results may be summarized as follows:

	Class of '60 as a whole	Class of '60 taking Reading and Study
No failures	58%	53.5%
1 failure	28%	32%
2-5 failures	14%	14.5%

This was a distinct improvement over the results of the strictly reading program, especially in the multiple failure group. However, it still was not just right.

Again changes were made to try to improve the performance of those students taking the Reading and Study Course. Through a more or less trial and error method, I finally hit upon a system which has proved to be the optimum for our students. This involves spending the first seven weeks of the course entirely on study skills. However, the strictly lecture method for presenting these skills was abandoned. Instead of this the first class meeting of each week was devoted to presenting, in informal lecture-discussion style, certain principles of study. The second class meeting was devoted to individual guided practice on the presented skill. Recorded college lectures were listened to and a comparison of notes taken was made. Notebooks of individual students were analyzed and changes were suggested where necessary. Students' textbooks notes were scrutinized and suggestions for changes were given if necessary. Guided practice was given in writing typical essay answers to examination questions. Students were helped to analyze their own returned essay exams to determine the weaknesses and strengths of their answers. The following list included the study skills presented; however, not all skills were presented to all sections -- for example, foreign language study was presented only to arts and science students.

1. Studying a textbook such as History, Economics or Religion.
2. Studying a textbook such as Mathematics or Science.
3. Studying a foreign language.
4. Analysis of Literary Writing: Essays Short Stories, Novels, Drama, and Poetry.
5. Taking Notes.
6. Studying for Examinations.
7. Taking an Essay Examination.

Each of these skills was then practiced by the students under guidance. Then the second seven weeks of the semester was devoted to the following reading skills:

1. Determining the main idea of paragraphs, sections, chapters, and essays.

2. Skimming and selective reading.
3. Remembering important details.
4. Adjusting rate to suit the material read.
5. Developing a good reading vocabulary.
6. Reading between the lines and recognizing tone.
7. Critical reading.

These skills were taught by the lecture-demonstration-practice method using articles from *Atlantic*, *Harpers*, *SRA Reading Laboratory Level IV A*, Cosper and Griffin's *Toward Better Reading Skill*, and textbooks from common courses. Again, machines were used occasionally. However, they were found to be less effective in improving speed than the use of skimming and intensive reading under time pressure.

Course grades of students in the Class of '62 who took this greatly revised Reading and Study Course were studied to determine the effectiveness of the new Reading and Study Course. The following table shows the results:

	Class of '62 as a whole	Class of '62 taking Reading and Study
No failures	66.3%	67.6%
1 failure	20.7%	22%
2-5 failures	13%	10.4%

At last, the results were what we had hoped for -- students taking the Reading and Study Course were approximately the same as the class as a whole in first term grades. In fact, with the class of '62, students in the Reading and Study Course were a fraction better! Finally, the optimum had been reached.

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For the past four years, the Reading and Study Course has followed the pattern set up for the Class of '62. With slight variations, the results for each class continue about the same as the class of '62.

Admittedly, this report is about one Reading and Study program in one college. However, the course has always been taught by the same person since its inception, and this in itself keeps one factor constant. Over the years, more than 1200 freshmen have taken the Reading and Study Course at Lafayette. This would seem a large enough number to give some credence to the results.

To summarize, at Lafayette College, we have found that seven weeks of a study skills taught by lecture-discussion-practice followed by seven weeks of reading skills taught by lecture-demonstration-practice give the optimum results in improving freshmen grades and reducing attrition in the freshman class.

The Importance of Structured Outside Assignments

by

James I. Brown
University of Minnesota

Every teacher of reading faces essentially the same problem -- that of achieving maximum results within the normal limits of our educational system. Normally, academic conventions determine the exact number of class periods available. Furthermore, each teacher realizes that he has only a limited amount of time for any one subject.

To achieve maximum results, a teacher must make the best possible use of all available class time as well as of all available outside assignment time. This poses some crucial questions. What, exactly, is the relative importance of these two major factors? Is an hour in class worth more, less, or about the same as an hour outside of class spent in working out an assignment? What kinds of assignments are actually most productive?

Before examining evidence bearing on these questions, certain pertinent aspects of the freshman communication program at the University of Minnesota should be described briefly, since that program provides the setting for the first data to be reported.

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The most distinguishing feature of the program is perhaps its flexibility -- a flexibility which permits the meeting of a wide variety of students needs and abilities. This flexibility is evidenced in the number and type of courses as well as in the avoidance of any set sequence for the six courses making up the program. There are four "emphasis" courses, one for each of the four communication skills of reading, writing, speaking, and listening. These are for students with specific deficiencies which require special attention or emphasis.

All incoming students are given a silent reading test, a listening comprehension test, a departmental writing test, and a speech rating. On the basis of these test scores and related data, students are sectioned according to their needs and abilities into one of the six courses. Students scoring below average in any of the four skills areas are assigned to the appropriate emphasis course. At the end of the quarter, they are re-tested in the area of emphasis and in any other area where they were initially below average.

As can be seen, the freshman communication program is, in a sense, like the experimental-control type of experimental design. For example, those in the listening, writing, and speaking sections who were also below average readers are retested in reading at the end of the quarter, along with those who took the special reading-emphasis course. In terms of reading improvement, they are a ready-made control group, the reading students being the experimental.

Over the years, in checking the effectiveness of our instruction in reading here at Minnesota, we have tried to take full advantage of this aspect of our freshman program. For example, an early check made use of two forms of the Diagnostic Reading Test as pre-test and post-test measures. Students in the reading sections made up an experimental group, those from the other sections making up the control. Data were obtained in the three major areas of reading efficiency -- rate, comprehension, and vocabulary.

Average Percentile Rank Results

Rate

	Pre		Post
Experimental	26.5	to	86.5
Control	57.5	to	78.3

Comprehension

	Pre		Post
Experimental	15.5	to	67.3
Control	37.1	to	61.0

Vocabulary

	Pre		Post
Experimental	14.5	to	29.7
Control	39.5	to	50.4

Examinations of these results show that the reading instruction was most helpful in increasing rate. Here the below average readers in the reading sections made an average percentile rank gain of 60, as compared with 20.8 for the others, approximately three times as much improvement. In fact, in one quarter's time the poor readers were reading much more rapidly than the one-time better readers from the other sections, despite some further improvement on their part.

Improvement in comprehension was not as marked, the reading group making a 51.9 average percentile rank gain as compared with 23.9 for the others - over twice as much improvement. Results in the area of vocabulary were least satisfactory. Here both the experimental and control groups made almost identical progress -- 15.2 as compared with 14.9, a difference of only .3 in favor of those taking the reading training.

These results threw into sharp focus the question of how, within the limited number of class periods and out-of-class time available, vocabulary could be taught more effectively, without sacrificing any of the gains already being achieved in rate and comprehension?

Gradually over the next seven years, certain changes were introduced and studied. They involved trying several different vocabulary-building aids for out-of-class use as well as developing a Master Word Series for use in class, a series which combined tachistoscopic training with vocabulary so as to contribute in more than one way to increased reading efficiency.

A re-check was then made within the same communication program framework, this time using the Nelson-Denny Reading Test. Percentile norms based on our incoming freshman population were used, as was the case with the earlier Diagnostic Test explorations. Again, reading-emphasis cases were compared with cases from the other emphasis sections.

The improved results in vocabulary were gratifying. Students in the reading courses were now improving more than twice as much in vocabulary as those in the other sections, where it was given little or no direct attention. While the reading students faced a major weakness in that area to begin with, averaging at the 19th percentile, in one quarter they had moved up to the 43rd percentile -- almost to the average -- a 24 percentile rank gain.

Average Percentile Rank Results in Vocabulary

	Pre		1951 Post		Gains
Reading Cases:	14.5	to	29.7	or	15.2
Control Cases:	35.5	to	50.4	or	14.9

	Pre		1958 Post		Gains
Reading Cases:	19	to	43	or	24
Control Cases:	43	to	53	or	10

Although different tests were used for the two checks, the initial percentile ranks suggest a close similarity. Over the seven-year period slight changes in the caliber of incoming students and in the composition of the sections could more than account for the initial difference -- 14.5 as compared with 19 for the reading cases and 35.5 as compared with 43 for the control. In both years the average initial percentile rank difference between the two groups was quite close -- 21 as compared with 24.

The improved results came from both in and out of class changes. Part of the effort, during this time, was concentrated on discovering which of seven different vocabulary-building aids gave best out-of-class improvement. Rather than require each student to spend a set amount of time with the aid of his choice, it was thought best, at this stage, to take a relatively free and unstructured approach. If students were given no set assignments but encouraged to use the aid as often as possible, it was thought that a clearer picture of its usefulness might evolve. If it were of genuine interest, the student would tend to give it more use. If it were dull, he would tend to neglect it. In short, permissiveness should accent the presence of such important factors as interest and resulting motivation.

The only report, therefore, that the students were asked to make was of the number of hours spent using the aid, together with a subjective rating of its apparent usefulness on a five-point scale. Steps were taken to separate the report from class grade so that more accuracy would be insured.

An analysis of results indicated that those using workbook type aids were getting somewhat better results than those using a regular text. It was also noted that with two of the aids a dictionary was indispensable. In terms of average gain, the top two were these dictionary-oriented aids, suggesting that this, too, may be an excellent criterion to keep in mind when selecting a vocabulary text. These findings began to suggest what kinds of outside assignments were most productive and merited further exploration.

With the below-average reader receiving the attention up to this point, it seemed time to turn to the above average student and our Efficient Reading courses. Here, too, there were some natural experimental-control type situations to take advantage of. Efficient Reading (Rhetoric 47) is a regular three-credit course for average or above average readers, sections being offered every quarter. During the regular school year, it meets three times a week for ten weeks. During the summer session, it meets five times a week for five weeks, with five fewer class periods, usually. In the evening, there are sixteen regularly scheduled sections offered through the Extension Division. Here the course runs on a semester basis, meeting once a week for seventeen weeks, almost two hours a week. In addition, there are two modified forms -- one a special short course for industry, an hour and a half a week for twelve weeks, the other an Educational TV course, a half hour a week for twelve weeks. In terms of class time, the range is from six to slightly over twenty-eight hours of classroom instruction.

In the previous explorations, major concern was over the student with below-average vocabulary. The students in various Efficient Reading sections were average and above. Did they have room for further improvement when at the start of the course they averaged from the 37th percentile up to the 70th? Evidence from the freshman program for those with better vocabularies showed more limited gains than those achieved by the below-average students. They moved from the 35.5th to the 50.4th percentile and from the 43rd to the 53rd. How much more improvement could be expected from more in class and out of class attention?

To investigate this further it was decided to use a single specific vocabulary aid with two of the five groups, the others to serve as informal control sections. By this time a new dictionary-oriented workbook text was available -- Building a Better Vocabulary, by Brown and Salisbury -- embodying some of the patterns and format suggested in the earlier research. The results are indicated on the next page.

Here the move was made toward less permissive and more structured assignments. Every student using the text was given an assignment sheet to guide him as he worked along. Specific assignments were made, the texts handed in upon completion. For the shorter summer session and the regular sections the assignments were identical, except that in the summer the students had only five instead of ten

Average Gains in Vocabulary

		Pre			Post		Gains	
		Raw	%		Raw	%	Raw	%
1.	Rhet. 47 (Regular - 10 wks)	40.53	37	to	49.45	63	8.92	26**
2.	Rhet. 47 (Summer - 5 wks)	43.68	46	to	52.57	70	8.89	24**
3.	Rhet. 47 (Extension - 17 wks)	46.29	53	to	50.34	64	4.05	11*
4.	Eff. Rdg. (Industry - 12 wks)	52.59	70	to	58.17	80	5.58	10*
5.	Eff. Rdg. (TV - 12 wks)	50.12	64	to	52.15	69	1.96	5

** Used Building a Better Vocabulary for outside assignments and Master Word Series in Class.

* Used Master Word Series in class but no text for outside assignments.

weeks to complete them. The assignments sheet specified the purpose of each assignment block -- an attempt to provide even more highly structured guidance.

These changes in the out-of-class assignments made a noticeable difference -- leading to over twice the percentile rank improvement of other sections. Furthermore, even those in industry where the group was at the 70th percentile rank at the beginning, still had room for continued growth. They moved up ten percentile ranks, on the average, to the 80th percentile, with only the Master-Word Series of Tachistoslides as in-class instruction and no outside assignments. For the TV Series it was not possible to use any parts of the Master-Word Series.

With vocabulary development, more and more evidence seemed to be accumulating to point up the distinct value of closely structured outside assignments. The next question was whether this was equally true in the areas of rate and comprehension. Could these also be improved by much closer attention to the out-of-class assignments?

To explore this further it was decided to make use of comparisons surrounding the TV Series, since this provided the best chance of trying out some of the changes suggested by the previous research. This meant that the difference between the first, second, and third complete series of Efficient Reading done for TV was more drastic than for any of the other courses.

The first Efficient Reading course to be given over Educational TV was televised early in 1960 over Channel 2, KTCA. Minnesota Mining, sponsors of the series, decided to repeat the series toward the end of that same year, since they had had over a thousand requests for record sheets and text for the course when first televised. For this first series there was a degree of structuring. One sheet provided directions for the preliminary and final check of flexibility, listed 47 selections to be read over the twelve-week period, and provided space for entering the pre-and post-test results.

About a year later, Channel 2 decided to institute the Minnesota Industry's School of the Air (MISOTA). They wanted to include Efficient Reading as one of the first offerings. This provided an ideal opportunity to check a difference in structuring, since the new MISOTA Series was to be almost identical with the earlier two in terms of what would be presented over the air. The major and only important difference would be in the structuring of the outside assignments.

To permit more meaningful comparisons, the same six selections from the required, text, Efficient Reading, Alternate Edition, were assigned for the initial and final check of flexibility. Furthermore, these same selections were also used with the same type of directions for our regular Extension Division sections.

Since flexibility seems a particularly desirable goal for adults to seek, the various sections of Efficient Reading begin and end with a three-fold check of flexibility. They are to read one selection at what they would call their normal rate, with normal attention to comprehension. This means that they are not to read it faster or slower than they would normally read, nor with more or less attention to meaning. This is an attempt to get a grass root level check of performance. Next they were directed to read one of the three selections once only for best possible comprehension, rate being noted but considered as incidental. Finally, they were told to read a third selection as rapidly as possible to check their top reading rate. Here, comprehension was checked but was not to be placed uppermost.

These three situations formed the basis for the next comparisons. At the end of the first TV series, the importance of outside practice was brought dramatically to the fore. The students were grouped into three groups -- those reading nine or less of the 47 outside readings, and those reading 31 or more

Average Improvement in Reading Flexibility

Group I - doing 9 or fewer outside readings

	Initial		Final		Gains - Group I	
	wpm	comp	wpm	comp	wpm	comp
Normal	336	65.8	365	73.5	29	7.7
For Comp	228	68.5	329	77.3	101	8.8
For Speed	368	67.3	440	68.9	72	1.6

Group III - doing 31 or more outside readings

Normal	308	67.3	477	69.2	169	1.9
For Comp	214	73.8	358	75.8	144	2.0
For Speed	379	60.8	626	70.4	247	9.6

of the outside readings assigned. When the two extremes were compared, the exact value of outside practice was obvious.

As can be seen, those supplementing the TV class instruction by doing approximately three practice readings a week for twelve weeks made up to five times the increase in rate as those doing fewer than one a week and, in comprehension, gains up to six times those made by the other group. These findings formed the basis for the re-structuring steps made with the new MISOTA Series.

The first change was actually in the number of assigned selections. This was raised from the previous 47 to 60, all from the same text. With the amount of practice raised 28 per cent, it would seem reasonable to expect the final results for the new MISOTA Series would be approximately 28 per cent better, other things being equal. Gains over and beyond that point might well be attributable to the other changes involving degree of structuring of outside assignments.

Here an attempt was made to go as far toward structuring and away from permissiveness as possible. Toward that end a special 32-page Study Guide was prepared to accompany the text and provide detailed directions for the reading of the weekly assignments. To give the viewers a feeling of more responsibility for getting the assignments done, they were given an 11-page assignment sheet packet. Each sheet contained blanks for entering the rate, comprehension and vocabulary scores for selections assigned. They were told to fill this sheet out immediately upon completing the assignment and mail it in, together with any comments or questions that had come up. Obviously, this was structuring carried to extreme lengths. They were told what to do, how to do it, and when and where to report their results.

Considering class time, the six-hour MISOTA TV Series with its highly structured assignments brought generally better results than the 18-hour short course (12 session) but not as good results as the longer 17-session evening class, with 28 hours of class time. In short, when class time is at a premium, specially structured outside assignments can apparently compensate in part for that limitation.

This prepares the way for a closer look at structuring patterns, another area which needs very thorough investigation. In the MISOTA Series, for example, what kinds of structuring were used?

Suppose we begin by looking more closely at the initial and final flexibility checks. As a matter of fact, this structured assignment was the first to point

Average Improvement in Reading Flexibility

MISOTA Group - 60 outside readings completed

Flexibility check	Initial		Final		Gains	
	wpm	comp	wpm	comp	wpm	comp
Normal	292 -	63.8	614 -	78.1	321 -	4.3
For Comp	197 -	73.3	489 -	77.2	292 -	3.9
For Speed	359 -	64.3	903 -	65.6	544 -	1.3

To get the full significance of these differences, suppose we put these results into the framework of adult Efficient Reading classes, specifically the Extension semester course, the 12-session short course for industry and the earlier TV series.

Average Improvement in Reading Flexibility

Normal Reading (Flexibility)

	Initial		Final		Gains	
Flexibility check	wpm	comp	wpm	comp	wpm	comp
1. 17-session	235	65.6	631	76.3	396	10.7
2. 12-session	295	65.1	460	70.8	165	5.7
3. First TV series	325	67.5	446	77.2	121	9.7
4. MISOTA Series	293	63.8	614	78.1	321	4.3

(MISOTA Series attained an average gain of 200 wpm more than the First Series, or 165 per cent more reading speed for normal reading. Comprehension dropped 5.4.)

Reading for Comprehension (Flexibility)

	Initial		Final		Gains	
	wpm	comp	wpm	comp	wpm	comp
1. 17-session	266	68.6	625	74.9	359	6.3
2. 12-session	229	71.6	449	80.2	220	8.6
3. First TV Series	229	75.2	358	78.9	129	3.7
4. MISOTA Series	197	73.3	489	77.2	292	3.9

(MISOTA Series brought an average gain of 163 wpm more than the earlier series, or 126 per cent more speed. Comprehension with .2 better.)

Reading for Speed (Flexibility)

	Initial		Final		Gains	
	wpm	comp	wpm	comp	wpm	comp
1. 17-session	389	59.8	1041	56.1	652	3.7
2. 12-session	431	62.8	808	65.5	377	2.7
3. First TV Series	385	66.9	602	67.5	217	.6
4. MISOTA Series	359	64.3	903	65.6	544	1.3

(MISOTA Series brought an average gain of 327 wpm over the earlier series, or 165 per cent more reading speed as a top rate. Comprehension was .7 better.)

up the value of a somewhat different approach. Up to that time students had been told to try to read each assigned reading with better comprehension and increased speed - to practice better reading habits. Then to the same assigned readings a new re-structured framework was added, which introduced a reason or purpose over and beyond attempts to read more efficiently. Would this be likely to make any difference in results? After all students would still be reading the identical selections in about the same amount of time. The noticeable heightening of student interest resulting from the re-structuring into a flexibility check suggested this was an area deserving close scrutiny.

To explore this further, a similar type of structuring was used for the first ten readings assigned. Specific directions were given in the text (p. 196) for the readings and graphing of results. Most students tend to avoid higher reading rates for fear of losing comprehension. Sometimes that fear is groundless, sometimes not. The structuring of the first ten readings was designed to break down this barrier or mental block or at least to determine how deeply ingrained it was. The student was asked to be objective and discover how much loss actually occurred and at what rate. This led to a more willing acceptance of the idea of exploring a wider range of reading rates in order to discover for himself the rate-comprehension relationship.

These two examples suggest a direction to be considered. The student is put into a position where he is led to discover for himself certain characteristics of his own reading performance and to note interrelationships which should bring valuable insights into his own problems. As can be seen, the stress is on developing personal insights.

The first three readings were structured to help him get a three-dimension picture of himself as a reader. The next selections were structured to help him explore the rate-comprehension relationship -- not what was true in general but what was true with him. This emphasis on the personal plus the underlining and sharpening of purpose was intended to move practice as far as possible from mere routine practice.

Still another structuring device was used later in the course -- a pacing technique, first at 500, then at 1,000 wpm. A detailed explanation of this may be found in the article, "A Pacing Technique for Classroom Teaching of Reading," found in the December, 1956, issue of College English. The Efficient Reading text contains a Pacing Aid Sheet at the back which permits students to be paced without the need for an expensive reading accelerator. These examples, in addition to the Study Guide, graph record sheets, progress sheets, and assignment report sheets, indicate the nature of the structuring used.

In conclusion, close structuring of outside assignments seems to be a factor of particular importance in the teaching of reading efficiency, whether we think in terms of vocabulary, rate, or comprehension. While every attempt was made to get maximum control within the normal class situations and the departmental framework, these explorations do fall short of the strict control demanded by the best research. Nevertheless, they should be of value in establishing the need for carefully controlled research in this area. Obviously there are implications and applications growing out of this data presented that are of prime concern to almost all teachers of reading. Further clarification and both formal and informal investigations should be in the picture.

The University of Toledo
"Total Push" Reading Program

by
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Reported here are the results of three similar reading training programs conducted during three different semesters at the University of Toledo. During these semesters (Spring, 1960; Fall, 1961; and Spring, 1962) 247 persons were enrolled in one of 15 sections of a twelve week course in reading improvement. Enrollment ranged from 10 to 27 per section. Enrollment was made up basically of adults from business and industry. Each section was assigned an assistant instructor (who was a graduate student in psychology himself enrolled in a graduate course in reading teaching techniques), an instructor (who was either a university instructor or an advanced graduate student who had formerly served as an assistant in the course), and an operator for motion picture and slide projectors. Supervising the assistants to the various reading classes for any one semester was a coordinator, an advanced graduate student who had served as an instructor. The entire program was under the general supervision of one of the authors, a faculty member of the department of psychology, who also taught the course in techniques of teaching reading.

During different semesters, the length of time the classes met varied between 90 and 120 minutes. When the class met for shorter periods than two hours, the instructor either came to the classroom earlier or remained in the classroom after the end of the class period. Students were encouraged to come early or stay later for informal practice with the reading equipment, and for conferences with the instructor.

The first class meeting was largely occupied with the administering and scoring of tests, including the Minnesota Speed of Reading and the Nelson-Denny vocabulary and reading comprehension tests. On the basis of the test results and group interviews with the students, students were reassigned to new sections (when their schedules permitted this) so as to constitute more homogeneous classes, and preliminary decisions were made concerning the emphasis on speed and comprehension in the instruction given each student. An attempt was made to uncover special problems, such as vocalization or emotionally based dislike for reading and to initiate special training procedures to cope with them.

During the following weeks, a variety of teaching and evaluation techniques were used. Some testing was done at every class meeting. In addition to the tests used the first week, some of the specialized tests in Robinson's "Effective Study" were used. Reading rate and comprehension tests were used that had been prepared and standardized at the University of Toledo for use with the student population in the reading improvement program. The reading selections consisted of material with a business rather than an academic subject-matter emphasis. The main test series consisted of the Robinson-Hall reading tests, administered alternate weeks, in a random series.

Teaching procedures used in the program included use of the Harvard training films; Rate-o-meters; tachistoscopic slides of number sets and nonsense letter sets; reading exercises followed by comprehension tests; supplementary reading assignments; mimeographed material on skimming and key word reading prepared at the University of Toledo; vocabulary; lectures and class discussion. Home practice was urged. Students were encouraged to buy one of the soft cover reading guides.

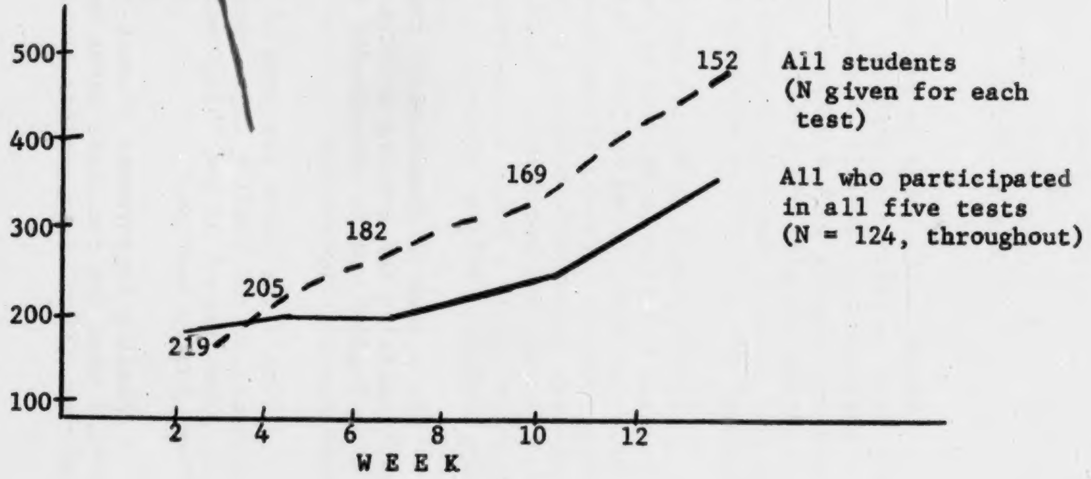
Class lectures dealt with such topics as techniques of overcoming poor reading habits, what to think about while reading, types of perceptual distortion to be expected during rapid reading (and how to correct for such distortions), the mechanics of reading, the importance of precision in the use of language, skimming, pre-viewing, summarizing while reading, and self-evaluation while reading to determine one's comprehension and retention level. Class discussion was encouraged. All class lectures were aimed at maintaining a high level of student motivation.

Students did not attend regularly. Many students were professional persons who could not take so much time away from their work. Surprisingly, there was no indication that students who dropped out after a few weeks showed less improvement (over the period they attended) than did those who attended for the entire twelve weeks. A small number of students showed striking improvement in speed and/or comprehension, some attaining speeds of over 1,000 words per minute on the Robinson-Hall tests with improved comprehension. Many of these were professional persons who did not attend regularly. Of the 124 students who attended regularly, only 14 had a lower score at the tenth week than at the second, using comparable Robinson-Hall test results. Comparison between second week and eleventh week scores was contaminated by non-equivalence of tests in some instances and by repetition of the same tests in other instances.

However, when the comparison was possible, it indicated even more striking differences between earlier and later performance levels in favor of the later performance than did the second week versus eleventh week comparison.

Mean Reading Efficiency Scores

Speed Reading Classes, Spring 1960, Fall 1962, Spring 1962 combined.
(Reading efficiency score is words read per minute corrected downward for comprehension score.)
(Where some students took more than one test in a two-week period, the running mean of the tests they took was used.)



The Reading Improvement Program at Ferris Institute

by

E. Coston Frederick

Ferris Institute

Students who enter Ferris Institute do not take entrance examinations. Our program is sufficiently flexible to permit us to take any student with a sincere interest in education and give him a chance to fill a needed niche in the modern community through general and specialized education.

Upon entrance to Ferris Institute, the students are given a battery of tests including SCAT, Co-op English, California Math, Seattle Algebra, Strong Vocational Interest Inventory and others as needed, such as the Minnesota Multi-Phasic. These tests serve as a basis for guidance through the students' college career.

If a student scores below the 25th percentile on the reading section of the Co-op English, it is recommended that he take Reading Improvement.

Within the first two days of class, students in the Reading Improvement classes are given Form A of the "Diagnostic Reading Test, Survey Section."

Reading Improvement classes meet for five days a week for the first three weeks of each quarter. Then class periods are cut to three days per week. During the first three weeks of the quarter, a systematic program of lectures and demonstrations is provided so that the students can gain a sequential overview of Reading Improvement. The remainder of the quarter is spent in concentrated practice of the skills taught during the lecture.

The Reading Center staff includes two teachers; each responsible for five classes. During the time one teacher is in class, the other is available for counseling and individual instruction.

Vocabulary is taught with an emphasis on the individual's needs, rate of growth, and divergencies of personal background. The teacher encourages the students to maintain a personal 3 x 5 card index of vocabulary terms from the students' own reading. On each card is the word in syllables, the dictionary definition as the word appears, and the phrase in which the word appears. A short time of each period is given to vocabulary study by having the students bring the cards to class and supplying words for study by the group.

Spelling is taught without apologies, since many of our students lack basic word analysis skills for post-high school education. A modified VAK approach serves to strengthen the students' skills in word analysis by syllabication and by roots and affixes. A list of spelling "demons" is used to practice these skills in class. Each "demon" is presented individually, and the student is shown how the word can best be analyzed by either syllabication or division by affixes and roots.

One class was chosen to provide an analysis of the effectiveness of the VAK approach to spelling. The pre-test consisted of 41 words from "The 100 Most Frequently Misspelled Words in Freshman Compositions" by Porter G. Perrin. The class average was 35% with a range from 17% to 80%. A post test using 41 words from the same list in a surprise test two weeks later showed an average per cent of 92, with a range from 60% to 100%.

The SQ3R technique and underlining is presented in the classroom using the book, Study Type of Reading Exercises, High School Level, by Ruth Strang. The chapters serve as practice lessons. No outside work is assigned in this area, since the students are expected and encouraged to use these techniques in their school work.

Rapid reading is an integral part of the Reading Improvement course. Several devices are used, depending upon how each student reacts to the devices. The Keystone Tachistoscope serves to demonstrate the students' ability to perceive more than one word in one fixation. It is not used in an attempt to widen the student's eye span or to improve visual acuity. The EDL Controlled Reader is set slightly higher than any student can read. The students respond favorably to the pressure and are able to comprehend more of each film strip at almost every showing. Some drop out of this practice because of physical limitations. The students then practice rapid reading in one of several ways. Some students react more favorably to the SRA Reading Accelerator and the AVA Reading Rateometer. Some students work better by using 3 x 5 index cards, providing their own motivation by drawing the card down over the page. Most students accomplish more gain by reading from the Reader's Digest while the teacher marks off 40 second intervals. In each 40 second interval, the student tries to read one column. If he cannot, he must stop reading that column and begin the next. Naturally, comprehension suffers, but the students increase their skills in this situation until the time is diminished to 30 second intervals. After these stress practice sessions, the students then take a test in speed and comprehension using the SRA Better Reading Books, Books 1, 2, and 3.

In addition to the rapid reading practice the students also work in the SRA Reading Laboratory IVa, and the SRA Reading for Understanding Laboratory. This work is done under close supervision so that the students will benefit by the sequential growth in the Laboratories. Vocabulary improvement is stressed in the Laboratories as well as the comprehension and word analysis skills. Each lesson is checked thoroughly by the teacher and student before the student is permitted to move into a higher lesson.

At the end of each quarter the students are tested with Form B of the Diagnostic Reading Test, Survey Section. The total comprehension score is adjusted for reliability.

Observable data at this time is a recent compilation of test scores over a two-year period of time. This study involves slightly over 1,000 students. The average pre-test scores in speed place at the 25 percentile and the average post-test scores in speed place at the 65 percentile. (This is an extrapolated percentile) Average pre-test comprehension places at slightly above the 25 percentile and average post-test comprehension places above the 50 percentile. Vocabulary showed a gain from slightly above the 25 percentile to slightly above the 50 percentile.

An Operative "Second Chance" Philosophy

by

Orval J. Anderson

West Virginia Wesleyan College

Although conscientious guidance personnel and academic deans and committees give much time and attention to the wayward college freshman, there is always the harrowing thought that maybe the door has been closed on good college potential that for one or a dozen reasons was unable to make the adjustment. Scholarship committees look long at grade marks, teachers' comments, and previous scholarship action before they come to a decision, as they must; but often, committee members, quite unhealthily, carry away misgivings about the action taken in the case of Mr. Pre-Engineer. After all, he was a good student from a reputable high school; he placed fairly high on college entrance tests; he looked bright; he was an intelligent conversationalist; he has a good personality; he had no financial worries; he was well-being itself -- but he did not make the grade. He has once again, however, raised the perennial question: are the colleges doing what they can to salvage worthwhile freshmen? Each college must take cognizance of this problem and search for means of solving it. Attempted solutions have met with varying degrees of success, but the experimental climate of the college is always favorable for the continued search.

Anderson, Oral J.

One such solution began back in 1930, at Washington Square College of New York University, when Drs. Frank McCloskey and F. W. John organized what was then and still is called "The Tutorial Group." The purpose of this group was to provide a clearing house setting for the study of freshmen with doubtful status. The object of the program was to substantiate the decisions made by the Scholarship Committee or to disprove them pleasantly. Disproval is pleasant because a disproved decision means that a student who has failed has justified himself under fire and is ready to continue in college.

In the words of Professors McCloskey and John, the philosophy back of this "second trial" group, for that is essentially what it is, "...gives the student of doubtful standing expert, close and sympathetic guidance and instruction at the time when these are likely to be most effective. The student found to be capable is helped to success; the one who has to withdraw is led to do so without ... rancor...."[1] Although the founders of this group realize that "If the youth who will thrive and grow in the university climate are to be permitted to develop as they should, their classes must be freed from the drag of those who either cannot or will not take advantage of their opportunities...,"[2] they also have the obligation to find out why students failed and direct such failures, if possible, to other work at which they can succeed. Such were the commendable ideas that back in the Thirties took notice of the apparently inept ones in an effort to find whether they were hopelessly out of their element in a liberal arts college.

As soon as second-term grades are available in the spring of the year, usually during the latter part of May, the Scholarship Committee goes over the records to find those who have failed to make the required point average of C for good standing. Immediately an alert,or warning, is dispatched to these students, requesting them to appear before the scholarship committee to discuss their overall academic situation. Failure to respond to the request for interview causes the student's name to be removed from the rolls of the college. With one of the associate deans serving as Director of the Tutorial and with the Dean of Women as a staff member, the faculty of the Tutorial functions as a scholarship committee throughout the duration of the program each year, and the channels for the handling of the student's case are clear and direct.

Each initial interview to determine whether the student will accept the Tutorial program is conducted by two faculty members. There must be two present for each interview a fair hearing of the individual case. As to the response to the warning letter, the Director's report on the 1952 Summer Tutorial (3) session is representative:

Students referred to group -- 212
Students appearing -- 122
Students reapplying from former years -- 11
Transfer students recommended by Director of Admissions -- 3
Students admitted to Tutorial -- 105

Wherever it was reasonably possible summonses sent by mail were supplemented by telephone calls to make certain that no student missed the chance to be helped by the Tutorial Group simply because he was unaware of his predicament. Some of those who were dropped were promised that their applications to Tutorial Group would be considered if renewed in some later year.

The teaching faculty for the Tutorial is chosen with great care. They must be patient, kind, interested. They should be teachers with much experience, teachers who understand the demands of college work, and who, though sympathetic, will not allow their decisions concerning a student to be other than objective. The teacher must know his material thoroughly and must be skillful in presenting it through a variety of methods, in the hope that some approach will stir even the most phlegmatic of the lot. Because of the standards required for its teachers, the Tutorial Group tends to stabilize insofar as faculty is concerned, and the turnover is negligible. In fact, it is rather a compliment to the professional caliber of its faculty in salvaging freshmen that many of the teachers forego interesting, needed vacations to carry on in a job for which they are particularly fitted.

The student enrolls for nine points of credit, three three-point courses. These courses meet five days each week, Monday through Friday, for eight weeks. The classes are all scheduled in the afternoon, from one until five o'clock. There are actually seven weeks of class sessions because, during the last week of the term, two days are used for final examinations and two days for the final conferences between staff and students.

One of the most important aspects of the program is the orientation lecture given by the Director on the opening day of classes. This lecture stresses the value of self-reliance, the importance of understanding that a feeling of rapport is to exist among the students and faculty, and the assurance that the faculty stands ready daily to help and to guide. Faithful attendance at classes is mandatory. It is clearly stated that the group operates to save students, not to humiliate them, and that, if at the end of the program, the committee feels that a student should not continue in college, it will do all in its power to get proper placement or guidance for him in order to place him where he will be successful. This lecture is very skillfully given, and the students are generally inspired by it.

As early in the term as possible, each teacher reviews carefully each student's dossier in the advisement office and becomes aware of difficulties, other than academic, which may cuase the student to work below his capacity. Often, through constant scrutiny of the student at work, the teacher identifies the eye difficulties and other disturbances and calls them to the attention of the student for correction. University psychiatrists are always available for consultation, both at the time of the initial and final interviews and throughout the session.

Except for a course in study methods and reading, the curriculum covers regular college courses in English, languages, government, biology, philosophy, classics, and history. Since the philosophy of the program is developmental and not remedial, a student who needs remedial help is not enrolled in the program but is referred to the New York University Reading Clinic where he is asked to work for six months or a year and reapply to the Tutorial for work the following summer.

The methods of study course is usually given to those thirty-six students whose scores on the Cooperative Reading Test and the Johnson-O'Connor vocabulary check are lowest in the group. The course is designed to teach anew or to correct study approaches in reading, writing, speaking, and listening. The instructor in the methods course is available for conference with any student who feels that he needs advice on study problems. There is a constant exchange of ideas on student progress between the teacher of methods and the academic faculty, and the academic faculty often suggests materials for use in methods.

Perhaps the most singularly effective personal guidance comes through the confidential interview which one of the directors has with each student during the first three weeks of classes. It is customary for the Dean of Women to interview all women students. This interview is unhurried and thorough. Generally it covers the family background, the student's educational experience, his extra-curricular activities, his employment record, his vocational aspirations, his study habits, and his personal likes and dislikes. This, when studied along with the initial interview, gives a rather reliable picture for support counseling.

Grades are awarded to the student every two weeks, and if he is having difficulty, an immediate conference with the teacher is necessary. The faculty meets for two mornings every two weeks to study the progress of the students. The proceedings of these meetings are taken by a secretary and pertinent remarks made are posted to the students' records. The record file for each student is kept strictly up-to-date. Each teacher records any significant data arising from observation of the students' work in class, and frequently a teacher may suggest that the parent or guardian be called in to discuss a student's problems. In fact, as close a contact as possible is always encouraged among student, teacher, and parent.

Final conferences are held on the last two days of term. The entire faculty is present and participates in these conferences. Often there is a great emotional reaction -- joy, disappointment, disgust -- depending upon the decision of the faculty in its function as scholarship committee. Any student, however, who is not being returned to the college has been counseled frequently as to alternatives "should he not make the grade." Plans are always well under way for final disposition: transfer to another college, go to a trade school, stay out of school a year, give it up entirely, get a job. The element of surprise in the decision is negligible. No decision anticipated throughout the term, however, is ever final until the last session. In working with the student, the teachers must always be realistic about the possible outcome of the student's work, but, at the same time, the student must be kept working and his morale must not slip.

Figures for the 1952 Tutorial Group may be taken as representative of final distribution of the cases as given in the Director's report: (4)

Number admitted -- 105
Number registered -- 92
Number dropped -- 40
Number re-instated-- 35
Number transferred to other colleges -- 17
(61.5% salvaged for further study at college level in degree-conferring institutions)

One year later, (1953), of those reinstated in Washington Square College, 9 were in good standing, 18 were still on probation, and 8 had not registered. The college gives no special treatment to any student after he leaves the Tutorial Group.

Admittedly, the program is not a cheap one to operate, but the college is not dealing with a cheap commodity -- human potential. So felt Professors McCloskey and John in 1930, and Washington Square still gives its approval in the thirty-third year of the Tutorial Group.

References

1. F. H. McCloskey and F. W. John, "The Tutorial Group of Washington Square College," School and Society, XLVI (October 2, 1937), p. 442.

2. Ibid., p. 440.

3. Used by permission of Dean Paul Culley, Associate Dean and Director of Tutorial Group, Washington Square College, New York University.

4. Used by permission of Dean Paul Culley, Associate Dean and Director of Tutorial Group, Washington Square College, New York University.

An Evaluation of Developmental Reading at West Bend High School

by

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With the installation of the new Developmental Reading Laboratory at West Bend High School, the English department became increasingly aware of its responsibility to administer and direct the program in a manner which was efficient and profitable in terms of student progress and teacher effort. Although the procedures involved in the actual teaching situation to be used at West Bend had been previously developed and tested at Purdue University, the resultant data was derived from studies of college samples and it was not certain that results would remain identical using High School subjects.

Research was available indicating what success could be anticipated for college students but not for high school students. It was thought that this indicated a serious gap in statistical information upon which to build the high school program. While it was reported by Cosper and Kephart (1) in a 1955 study, for example, that a reading rate increase of 166 words per minute could be expected for college students, no such information was readily available dealing with high school students. In fact, a study by T. R. Carlson (2) in 1949 suggested to these writers that possible difficulties might be expected in any developmental program at lower than the college level.

In a study by Martens (3), evidence was reported that suggested 1.- reading pacers were of doubtful value, and 2.- "reader pacer training produced quick results which disappeared when training was discontinued." This study of Junior High students did not identify the type of pacer used and reported a teaching method somewhat different from that planned for the West Bend program; nevertheless, it seemed to indicate that further objective study of the reading program was desirable.

Although favorable reports of high school programs in reading development appeared from time to time, mostly, they were subjective in nature. The English department at West Bend High School decided to secure objective data and make it available, not only for their own planning purposes, but for other interested educators as well. The following study is a result of that plan.

Goals

The committee appointed to design the experiment agreed that one experiment could not possibly supply data sufficient to answer all of the questions that were raised. It seemed more appropriate to first determine the extent of gain in reading speed and comprehension, if any. Other questions were postponed for future study, and a few prospective areas for study were tentatively included in the initial experiment in the form of pilot studies. Simply speaking, the goals were: 1. - to determine student progress in speed and comprehension, and 2. - to obtain additional data upon which to build future studies.

Experiment I - Design

The experimental design was to study the progress of an experimental group training in the Developmental Laboratory using a process widely employed by research specialists in the field of education. This process is commonly known as the "correlated-pairs" approach. In it two groups are established. One of the groups consists of students receiving the special instruction, the other consists of students not receiving the instruction. Before the experiment is begun, individual students in one group are matched with members from the opposite group on the basis of age, sex, intelligence, grade-point averages, and initial status with regard to the experimental criterion. The pairs are then compared through a statistical process which determines the extent of their homogeneity for each factor. If close homogeneity exists, one group is then designated as the experimental group and receives the special instruction, while the other group becomes the control group and does not receive the special instruction. If any difference exists between the groups with respect to the experimental criterion at the close of the experimental period, that difference can be confidently credited to the special instruction. The effect of extraneous factors is eliminated in this process.

The committee chose to adopt the correlated-pairs approach since it was the most reliable method of experimentation available. The committee also decided to carefully control the extent to which each group was exposed to reading in general. It was though that one group should receive approximately the same amount of reading experience as the other. The difference between the two groups' training would be that the experimental would be taught skills while the control group would be taught content.

During the planning period the committee decided to train the control groups in the taking of reading tests, too.

The Sampling

The sophomore class of West Bend High School became the group from which both the experimental and the control groups were obtained. This was a natural selection since approximately one-half of the sophomores were scheduled for laboratory experience during the experimental period. The other half attended regular English classes during the same class periods and were in a position to meet the other requirements of the experiment.

Sixty-six pairs were selected from the two sophomore groups. The control groups were taught by four teachers and were members of seven separate sections. The experimental groups were taught by three teachers and were members of four sections. One laboratory section was omitted from the pairing because it was a special English class concentrating on the study of debate, and it was thought that its unique feature might impair the experiment.

The initial sixty-six pairs of the study were subjected to a statistical analysis to determine the homogeneity. The process involved is known as the "t-test". Using this process, it was determined that no significant differences existed between the groups with respect to any of the factors used in the pairing.

Table I shows the status of the classes from which the groups were drawn. Table II indicates the extent of the homogeneity of the sampling after the pairing process.

The analysis showed that reading speed, comprehension, intelligence, and prior academic achievement were slightly, but not significantly, different. Sex, age, and grade were constant.

The Measuring Devices

For purposes of pairing, the Triggs Diagnostic Reading Test was selected to measure speed and comprehension for both groups. An alternate form was used to measure the same factors upon conclusion of the experimental period. These tests have been previously validated by their author.

The Otis Intelligence Test was used to determine initial intelligence. The class records of the students in both groups were used to determine prior academic achievement. Supplementary data were secured via questionnaire.

The Method

The experimental group received two sessions per week of laboratory training at regular intervals, but with varying

TABLE I

Analysis of the Groups from Which the Experimental and Control Groups Were Drawn

Item	Experimental Group Classes	Control Group Classes
Mean Reading Speed	261.015	246.35
Standard Deviation	62.82	62.70
Mean I.Q. Scores	111.834	106.98
Standard Deviation	9.111	9.492
Mean Grade Point	2.631	2.212
Standard Deviation	.735	.708
Mean Comprehension	24.570	23.589
Standard Deviation	6.78	6.15

Reading Data obtained through the use of the Triggs Diagnostic Reading Test. Reading speeds in words per minute, other data in raw scores.

TABLE II

Analysis of Differences of the Experimental and Control Groups With Respect to the Means of Intelligence Scores, Prior Achievement Scores, Prior Reading Speed Scores, and Prior Comprehension Scores

	Experimental Group	Control Group
Mean Reading Speed	247.93	243.984
Standard Deviation	50.265	52.765
Difference Between Means	3.951	
Standard Error of the Mean	3.66	
"t" value	1.068	
Probability	Not significant	
Mean Comprehension Scores	24.000	24.459
Standard Deviation	6.495	5.766
Difference Between Means	.459	
Standard Error of the Mean	.469	
"t" value	Not significant	

Mean I. Q. Scores	109.541		108.918
Standard Deviation	8.4999		8.931
Difference Between Means		.6229	
Standard Error of the Mean		.569	
"t" value		1.539	
Probability	Not significant		
Mean Academic Achievement Scores	2.392		2.364
Standard Deviation	.887		.712
Difference Between Means		.279	
Standard Error of the Mean		.420	
"t" value		.6643	
Probability	Not significant		

Reading data obtained through use of the Triggs Diagnostic Reading Test. Reading speeds in words per minute, comprehension scores in raw data.

schedules. The experimental period was the first semester of the school year.

The laboratory training consisted of fifty-two minute sessions during which the students received the special instruction. It consisted of training while reading at the *Shadowscope Reading Pacers*, viewing the *Iowa Reading Films*, and working with the *Controlled Reader*. In addition, all sections received Cosper-Griffin's timed essays followed by comprehension tests. All work was recorded daily. The laboratory instructor provided the experimental group with advice, motivation, guidance, and supervision.

On the days not spent in the laboratory, the experimental group attended regular English classes and studied the same areas of English that the control group was studying. The control groups, as previously planned, received a proportionate amount of reading experience during the experimental period. This was done through concentrating on literature. Thus, while the experimental group received training designed to increase reading skills, the control group spent approximately the same amount of time receiving training in reading content.

The Results

During the course of the experiment,

the initial sixty-six pairs were reduced to sixty-one. This was a result of the usual drop-outs, program changes, etc., with which every high school teacher is familiar. After carefully re-checking statistically for initial homogeneity of the remainder of the groups, the data accumulated were carefully compiled and analyzed to determine whether any significant differences existed. The processes used were 1. - mean differences, 2. - standard deviations, 3. - significance of the differences between means.

Reading Speed. Table III below indicates that a significant difference existed between the experimental and the control groups at the close of the experimental period. That difference was in speed of reading. While only a difference of about four words per minute existed between the groups before the training period, a difference of 188 words per minute existed at the close of the experiment. The group which had been trained in the Developmental Reading Laboratory, of course, was the faster-reading group. The odds that this difference was due to the training rather than some extraneous factor were estimated to be at least ten million to one.

Reading Comprehension. The mean comprehension in raw score, as measured by the Triggs test, was initially almost identical. After the experimental period both groups showed a gain of approximately three points in raw score.

Interpretation of Results

The data clearly indicated a very practical difference of approximately 188 words per minute gain in reading speed for the experimental group. The odds that this gain was a true gain were more than 100 to 1.

The two groups completed the experimental period with almost identical gains in comprehension, about three points in raw score. Actually, this in itself is highly significant. Although no rate of comprehension as such was available through the process used, the raw scores obtained indicate that no loss of comprehension resulted from increased speed in the experimental group. Practically speaking, this means that the faster reader was able to absorb the same amount of content in a shorter span of time. In other words, no sacrifice of one skill was necessary to increase the other.

Experiment II

At the close of the experimental period, it was decided that it would be possible to secure additional data in two areas which might make the experiment more meaningful and useful. These areas were: 1. - to test the control group

TABLE III

Analysis of the Difference of the Experimental and Control Groups With Respect to Reading Speed and Reading Comprehension at the Close of the Experiment

	Experimental Group		Control Group
Mean Reading Speed	441.180		253.246
Standard Deviation	136.770		64.2045
Difference Between Means		187.934	
Standard Error of the Mean		13.862	
"t" Value		13.510	
Probability	Less than	.01	
Mean Comprehension Raw Score	27.197		27.360
Standard Deviation	5.940		4.770
Difference Between Means		.163	
Standard Error of the Mean		.537	
"t" Value		.304	
Probability	Greater than	.25	-- not significant

Above data secured through use of the Triggs Diagnostic Reading Test as final measuring instrument. Reading Speeds in words per minute.

for apparent gains after it had received the laboratory training, and to compare those gains to the gains of the experimental group, and 2. - to retest the experimental group after a four-month period to determine the extent of apparent retention of the reading skills previously measured. The measurements were made and the data compiled and interpreted.

Comparison of Groups

After the control group had completed the reading training in the reading laboratory in a course identical to that which the experimental group had completed, it was tested for achievement with an alternate form of the testing instrument used to measure the achievement of the experimental group. The results of each group were compared to determine whether any significant difference in achievement existed. It was thought that this procedure would aid in establishing whether or not the initial homogeneity presumed on the basis of the original pairing processes was indeed accurate.

Table IV indicates that no significant difference in achievement existed between the two groups. The control group, however, which was initially thought to be very slightly inferior, gained approximately 235 words per minute in reading speed compared to 180 for the experimental.

TABLE IV

Analysis of the Difference of the Experimental and Control Groups After Each Group had Completed the Developmental Reading Course

	Experimental Group		Control Group
Mean reading speed	445.338		489.000
Standard Deviation	134.75		224.625
Difference between Means		43.661	
Standard Error of the Mean		31.250	
"t" Value		1.397	
Probability	Not significant		
Mean Comprehension Raw Score	27.135		27.033
Standard Deviation	4.747		4.740
Difference Between Means		.102	
Standard Error of the Mean		.688	
"t" Value		.148	
Probability	Not significant		

The above data were secured through use of the Triggs Diagnostic Reading Form A. Reading speeds are in words per minute.

group, and maintained almost identical progress in comprehension. While this difference is attibuted to chance factors, the fact remains that in the initial pairing the experimental group certainly had no advantage in potential learning ability.

Retention

The experimental group was given an alternate form of the Triggs test after a period of four months had elapsed since it had completed the developmental reading training. Table V illustrates the extent to which speed and comprehension skills changed with the passage of time during which no additional training was given. Of the apparent mean gain of 180 words per minute that the experimental group had attained, 124 words per minute was indicated to still be retained. This amounts to approximately 69% retention of reading speed skill over the period during which the greatest loss of learning could be expected.

The comprehension factor,conversely, rose slightly. This seems to indicate that overall comprehension is not affected by rate of reading, assuming that the student reads at a rate suitable or comfortable to him. Further retention studies are planned for these groups for September of 1962 and June of 1963.

TABLE V

A Summary of the Retention of Reading Speed and Comprehension Skills of the Experimental Group Four Months After Completing the Developmental Reading Training

	Speed Scores in Words Per Minute	Comprehension Scores in Raw Score
Scores upon completion of Experimental Period	441.180	27.197
Scores Four Months after Completion of Experimental Period	384.707	27.815
Difference in Scores	+56.473	+.618
Scores Before Experiment Began	261.015	24.570
Apparent Gains at Close of Experimental Period	180.165	2.627
Apparent Retained Gains After Four Months	123.692	3.245

Above data were secured through use of the Triggs Diagnostic Reading Tests. Slight difference in above data to that reported earlier due to reduced size of group because of drop-outs.

Areas for Further Study

Among the questions which arose before and during the reading experiment were the following. They represent areas for further study in which the committee thought that sufficient data at the high school level were lacking:

1. What is the most desirable frequency and length of sessions to be used in the reading laboratory?
2. What is the role of vocabulary training prior to developmental training?
3. What is the extent of the retention of the reading skills learned in the developmental program?
4. Should advanced developmental training be included in the general reading program?
5. Do retarded readers benefit sufficiently to be included in the developmental group?
6. What is the cause of inconsistancy of progress among individuals subjected to developmental training?
7. What effect does reading skill have upon progress in other aca-

demic courses?

8. Does increased reading speed cause a decrease in esthetic appreciation?

9. Does increased reading skill affect apparent I.Q.?

References

1. Cosper, R. and Kephart, N. C. "Retention of Reading Skills," *Journal of Educational Research*, 49 (November, 1955), 211-16.

2. Carlson, T. R., "Effect of Certain Test Factors on Measurement of Speed of Reading," *Journal of Educational Research*, XLII (1949), 500-11.

3. Martens, Mary, "The Role of a Pacer in Improving Comprehension," *Journal of Developmental Reading*, Volume IV, No. 2, Winter, 1961.

A Course in Reading Improvement for Executives

by

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I. Introduction

A course in reading improvement was offered to a group of twenty-five Internal Revenue executives, in connection with a management training program. The class, which was held in meeting rooms of an Indianapolis hotel, met two hours each Tuesday and Thursday for nine weeks. The aim of the course was to improve efficiency in reading, by increasing speed while maintaining comprehension.

II. Summary of

Conclusions and Recommendations (Especially to reading teachers contemplating teaching business or industrial groups away from campus classrooms or laboratories.)

1. The course seems to have been worthwhile for at least two-thirds of the class. Members of Group A (those who read films at the faster of the two speeds at which they were shown) made significant gains in speed of reading while maintaining comprehension. For those in Group B (readers of films at slower speeds), although gains in speed were less marked, some improvements were still noticeable.

2. Optimum physical conditions should be provided.

a. Classes at the end of the work day have the disadvantage of fatigue. Evening classes, after a meal and rest, may be better.

b. Some outside the reading profession seem uninformed as to the need for adequate lighting and distraction-free conditions for reading training.

c. Space and time allowing for discussion with individual students (not to disturb other readers) is important. (After-class discussion is inadequate; both students and instructor have other commitments to go to.)

d. Each member in a group of this size should have equipment (pacers, books, etc.) to allow for "one-shot" instruction to the group as a whole, rather than the "two-shot", necessary in a divided class. More time for individual instruction during classtime is the obvious result.

III. Description

The program consisted of three main parts:

1. Independent reading on pacers.
2. Group reading of timed essays. After each essay was read, a test was given to determine comprehension.
3. Films from the Purdue series were shown and a test given after each showing.

IV. Procedure

At the first class meeting a general introduction was given including the purpose, scope, and procedure of the course.

At the second and third meetings, the group read and was tested on an essay selection and two films. Since this procedure proved too demanding of the class, after a full day of other commitments, only one film and one essay were given at each session, for the remainder of the course.

The films were run at two speeds, the faster for those who felt they could read efficiently at this announced rate, and the slower for the rest of the group. Pacer reading took up the remainder of the meeting time.

To save confusion in the split group plan, two rooms were used. One group spent the first hour reading on the pacers, while the other saw a film and read an essay, with tests, in another room.

V. Results

1. On the pacers, the thirteen readers in Group A (the faster readers) increased speed on an average of 368 word-

per-minute. The twelve in Group B (the slower readers) increased an average of 185 wpm.

2. In essay readings, Group A showed an average increase of 173 wpm, with an average increase in comprehension from 74 to 75. Group B increased average essay speed by 7 wpm, with an average increase in comprehension from 59 to 69.

3. In film readings, Group A started at 282 wpm and finished at 589 wpm. Comprehension increased on the average from 71 to 73. Group B started at 282 wpm and finished at 383 wpm. The average comprehension score for Group B rose from 55 to 69.

Western Reserve University's
Preparation for College Program

by

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Western Reserve University's Preparation for College (PFC) program has been conducted during every summer session since 1959. Classes meet for three hours per day for four weeks; two sessions are held each summer. Enrollment is limited to those students who have either been admitted to a college or who show evidence that they are college material. No attempt is made to limit the enrollment to students who meet Western Reserve University admissions standards.

Prior to the beginning of the program each applicant is required to take a series of entrance examinations. These tests usually consist of the American College Entrance Examination, the Cooperative Reading Test (C2), and the writing of an impromptu theme. Results from these examinations are not only used for admissions purposes but also for grouping.

The following principles underlie both course content and the operation of the PFC program.

a. Each student is placed into competition with himself and is expected to show gains as measured against his entrance examination scores and previous scholastic success. No arbitrary group achievement goals are set.

b. Each instructor attempts to make certain that each student will meet some success.

c. Efforts are made to encourage each student to become independent in regard to his mastery of basic learning tools such as use of the library, learning skills, self-dependence, and desire to learn.

d. Efforts are made to individualize each student's course of study so that his time will be spent on his areas of need.

Although the course has not remained static, and has changed considerably during its four years of existence, the following are the basic areas offered: reading improvement, methods of learning and study skills, a writing improvement laboratory, group and individual counseling, and large group lectures.

Emphasis in the reading improvement course is placed on comprehension and flexibility. The general format of the course consists of acquainting students with the theory underlying good reading practices and the implementation of these principles. Stress is placed on the following skills: main idea reading, skimming, scanning, organizational pattern of writers, adjustment of speed and method according to purpose and level of difficulty of the material to be read, selection of important details, and critical reading. Although machines are used sparingly, they are used. The perceptoscope is used for group drills, and students who indicate that they will profit from it are encouraged to use pacers.

The reading materials which are used are carefully alternated so that students do not become adjusted to only one level of reading difficulty. The materials used range from the easiest selections in Brown's Efficient Reading to the Harvard selections to reprints from magazines such as Harpers, The Atlantic, and The Saturday Review. In addition to the regular assignments, each student is required to read at least one hour a day; the level of the material and the type are left to the student's discretion.

In the learning skills and study methods course emphasis is placed on teaching students to apply learning theories to their studies. The following skills are emphasized: forgetting, overlearning, methods of recitation, and fatigue. Study skills such as budgeting of time, environment, attitude, control of emotions, and note taking are also emphasized.

The objective of the writing laboratory is to help each student to improve his writing by learning from his errors. Group instruction is kept to a minimum. Students write two to four themes a week, revise them, and consult, individually, with the instructor. Attempts are made to make certain that each student understands the errors he is making and the methods by which he can correct them. The interrelationship between many of the skills involved in good reading and good writing are also brought to the attention of the student.

Group and individual counseling sessions are conducted with the intent of improving educational attainment. The subjects of counseling sessions are those parts of the personality pattern which may, and in some cases do, interfere with the learning process. The Guilford-Zimmerman Temperament Survey and the Sentence Completion Test are used as diagnostic tools. Each student is personally interviewed, at least once, by a trained counselor.

The large group lectures are planned

to accomplish the following three basic objectives:

a. To stimulate each student's intellectual curiosity.
b. To provide practice in listening and note taking.
c. To accustom students to large group learning situations.

Lectures, which are always related to the course work, are usually delivered by Western Reserve University professors who are not officially connected with the program. Topics have ranged from the chemical structure of molecules to the reading of great literature. All lectures are usually related to reading improvement techniques in different academic areas.

The following tables contain a summary of the means of the reading portion of the program, as measured by the before and after Cooperative Reading Test scores, for all four years of the program.

Preparation for College: Cooperative Reading Test (C2) Group Means

	1959 N= 124			1960 N= 122		
C2 Subtest	Pre PFC	Conclusion of PFC	Gain	Pre PFC	Conclusion of PFC	Gain
Vocab.	17.07	28.44	+11.37	19.15	30.31	+11.16
Speed	21.18	29.72	+ 8.54	22.21	30.35	+ 8.14
Level	15.71	23.77	+ 8.06	15.83	22.84	+ 7.01

	1961 N= 119			1962 N= 99		
C2 Subtest	Pre PFC	Conclusion of PFC	Gain	Pre PFC	Conclusion of PFC	Gain
Vocab.	18.48	23.69	+ 5.21	19.93	31.02	+12.09
Speed	19.91	28.38	+ 8.47	22.95	28.20	+ 5.25
Level	15.34	23.18	+ 7.84	16.79	19.96	+ 3.17

Progress in Programmed Instruction

by

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The North Central Reading Association meetings in Minneapolis, 1962, included an informal report of research at the University of Minnesota for the past four years, in the application of the concepts of programmed instruction to the task of improving the reading skills of college students. At the National Reading Conference meeting last December, a report was given which was published in the Yearbook of that organization, describing a research project designed to compare some programmed instruction materials with some more traditional materials and techniques.

My purpose here is to bring up to date the status of a continuing program of basic and applied research in programmed instruction and to describe some of the rather sweeping changes in the Reading Center operation which have been made possible through adoption of programmed instruction.

We are moving forward on two broad fronts - 1. producing, evaluating, and improving the necessary materials with which to carry on a more effective training program, and - 2. finding ways to put these new materials and ideas to work in a way which will increase our ability to deal with the variety and complexity of the individual needs of our students.

Research

Let us turn our attention first to the question of research in programmed instruction. In the study reported last year the author, in collaboration with Dr. David Wark, compared the improvements of 84 college students in paragraph comprehension obtained under three conditions of instruction. Two conditions utilized programmed instruction materials and one was a control condition. We found that we got significantly more improvement in paragraph comprehension scores on the Diagnostic Reading Test in both of the experimental groups with three hours of training time versus the improvement we had obtained with the control group in 9 weeks. These results looked almost too good to us, and we have been trying ever since to get more evidence on which to generalize about the effectiveness of these particular programmed materials.

Since that time the present authors have carried out two carefully controlled comparison studies, using college students in one and high school students in the other. In the study of college students and their comprehension gains, we used 137 male and female undergraduates enrolled in the Reading and Study Skills Center of the University of Minnesota. They were divided into experimental and control groups on a random basis with each counselor having one experimental and one control group. Testing was one pre and post with the paragraph comprehension section of the Diagnostic Reading Tests, with the forms reversed the second quarter to control for lack of inter-form equivalence. The experimental group used the programmed materials studied earlier and the controls used the SRA Reading Laboratory IVa. Time for the study was four hours of instruction, included ½ hour of testing time. Practice was spread out over two weeks (twice a week). Analysis of co-variance results showed significant differences between pre and post test scores on the paragraph comprehension score, but did not show differences between experimental and control group subjects. In other words, the subjects improved significantly in both groups and the group using programmed material was not significantly better than the SRA Group.

The second study was very similar, but used high school students, who were carefully placed into experimental and control groups by use of their initial comprehension scores. They were ranked and every other one was put into the experimental group. Again the experimental group was given the programmed materials and the controls were put on the SRA box. Because of the more rigorous procedures used in placing the subjects into experimental and control groups, the statistical analysis in this study was very straightforward, using t-test comparison of groups on post-test scores. The results were very similar to the other study. We found significant improvement in paragraph comprehension scores, but no differences between the experimental and control groups.

A third study we want to mention has to do with the basic theoretical position from which programmed learning theory is derived. The model chosen for theoretical discussions of programmed learning is usually operant conditioning -- that is, the shaping of the normal, ongoing behavior of the organism. Much of the research from which we know the principles of such conditioning has been done with animals other than human and the results are well known to show certain effects when reinforcements or rewards are given using various schedules. In many animal studies, it is clear that response behavior is changed markedly when rewards are given on an aperiodic schedule, with the animal being reinforced only part of the time when it emits the desired response. A few human learning studies have also shown that intermittent reinforcement produces a higher rate of responding, and more resistance to extinction. (That is, the response behavior goes on longer after reinforcement is terminated). Also the level of motivation is higher when reinforcement is intermittent, and is especially high when the subject gets a low ratio of reinforcements to correct responses and gets them on a random schedule. If the analogy to animal learning is really the most useful one to use in theorizing about human learning, we should predict that programming making use of aperiodic reinforcement, (i.e. -- only some of the correct responses reinforced,) should produce effects similar to those in animal learning. It is surprising that more exploration of this question has not already taken place, since it is Skinner who has produced the most research on schedules of reinforcement. We have a grant to explore the effectiveness of reinforcement in programmed learning under various schedules and will soon be gathering data.

Application

For some years the Reading and Study Skills Center at Minnesota has operated on a general plan that is typical of college programs elsewhere: heavily counseling-oriented, small group classroom techniques, and a maximum of individual personal contact with students. The amount of testing and counseling we have been doing has been a constant source of guilt feelings with us, as we suspect it has with many others. We talk glibly about relating diagnostic information to treatment techniques and then proceed to operate a "Class" in which all the members are engaging in the same activity at the same time. Individualization takes place, if at all, in the fact that different individuals are reading at different rates on the group exercises we use. To be sure, we have managed some individualization through the use of supervised or unsupervised practice time, but this has usually meant little more than that the students could come in and use the pacers at odd hours, regardless of whether the particular student had any business on the pacer. Because our students present a wide variety of developmental and remedial needs, we have tried to cover the waterfront, giving a lick and a promise to a large number of areas of instruction, hoping that we will hit everyone's needs. We sometimes even talked about "feeling out the needs of the class" through discussion techniques and tailoring the group activities to its needs. In our more reflective moments we realized that no "consensus" program would really fit all their needs any more than the mean suit or dress size would fit all of them. Their needs are extremely varied -- spelling, vocabulary improvement, rate improvement, word-attack skills, note-taking, time budgeting, and many more. Some should be with us for three or four weeks and some should work for a year or more.

Like many others, we have dreamed many times about the ideal college reading clinic in which we would find a way to provide for the counseling and instructional needs of our individual students. Needless to say, it always looks impossible without large changes in time, staff, materials, space, and budget. Many times we have wished that we could operate on a totally individual basis, but have always been stopped by the rigid demands of our schedule, the students' schedule, lack of staff, and all the other problems which come to mind.

It was the development of programmed instruction materials and techniques which finally gave us the idea for what has turned out to be a real administrative or organizational breakthrough. We are now able to have students enter the clinic at any time rather than only at the start of a quarter. They can work for one week or ten months. We can handle more students, and still give them more individual attention than ever before. Best of all, no two students need ever be doing the same thing at the same time. In addition, we are able to have a complete diagnostic work-up on the student before we begin to work with him.

The program we are now operating is a four-stage program, with the first stage being a diagnostic testing phase, in which the student is given enough information so that we can tell where to begin with him when we get him in the clinic. The second phase is a diagnostic interview during which tests are interpreted to students and a tentative improvement plan is made up for the individual student. The third phase is supervised individual practice work in the Reading and Study Skills Center, in whatever it is that particular person needs. The fourth phase is a continuing one in which evaluation of progress and redirection and student activity takes place whenever it seems appropriate.

In the diagnostic testing phase the student comes to us with a great deal of information already collected. We have his high school records, his score on a scholastic aptitude test, a score on the Cooperative English Achievement Test, the American College Testing Program tests, usually a personality test such as the MMPI, and often vocational interest tests taken in both high school and entering college. When a student arrives in the Center, he is given the Cooperative Reading Test (C2T), the diagnostic Reading Test, the Cooperative English Test, Form OM, Spelling section, the Survey of Study Habits and Attitudes, and a personal information form which gives us information about the student's school history, health history and other relevant information.

In the second phase of the program the student comes in for a diagnostic interview in which we attempt to find out why he is in the University and why he has come to the Reading and Study Skills Center. We determine at this time to what an extent the student is a remedial or developmental case, and try to assess his instructional needs. At that point we schedule him for individual sessions in the Center and decide which materials he will be working on. We have about 25 different sets of materials packaged in self-instructional units and this set of material is selected and put together in a package for the particular student involved. This is the point at which the programmed instruction material becomes very useful. About half of the material used in the clinic is programmed material. Most of it is material that we have programmed.

In the third phase of the program the student comes into the Reading and Study Skills Center for individual work under the supervision of a counselor and has constant daily contact with whichever counselor is in charge of the group at the time the student comes in. Since almost all of the material is self-instructional in nature, the counselor is not doing the usual kind of teaching but is spending his time dealing with the individual students, checking their progress, making suggestions for changes in their improvement plans, and in general giving them the sort of support and encouragement that these students typically need.

The fourth phase of the program is the continuous evaluation of progress. Many of the units of the self-instructional material have progress tests built into them, and in many other cases the material is such that constant observation of the student's performance in practice materials is a good evaluation of progress. In some other cases, standardized tests are used periodically to assess gains.

We find that we can handle more students with the same staff and space, and still give them more individual attention than ever before. We can take them in at any point in time -- not just at the start of a quarter, and we can work with them for one hour a week or ten, depending on what they need. Some are remedial cases and some are developmental cases. The best advantage is that we no longer have to pretend that we can meet the needs of all the members of a class or group by having them all do the same thing at the same time. By the time we put together the particular programs and units each student will use, from the 25 or more we have now available, we have what is essentially a programmed college reading manual designed with the particular student in mind.

We have been operating this new program only since October, and have not yet had any real chance to stop and take a breath, let alone evaluate it in any formal way. However, the reactions of both students and staff are extremely positive at this time.

The thing that has made all this possible is the notion of self-instructional programmed materials which do two important things:

1. Relieve the teacher or counselor of the more routine management problems in teaching and
2. Provide sufficient program flexibility to meet the needs of the individual student.

We are sure that our total effectiveness has been increased more than we would have believed possible five years ago. We don't know what the future will bring, but we are sure that we will never want to return to any mass treatment which forces us to assume that everybody in the room has the same instructional needs.

A Program to Improve Paragraph Comprehension

by

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Thorndike described reading comprehension as follows: "Understanding a paragraph is like solving a problem in arithmetic. It consists in selecting the right elements of the situation and putting them together in the right relations, and also with the right amount of weight or influence for each. The mind is assailed by every word in the paragraph. It must select, repress, soften, emphasize, correlate and organize, all under the influence of the right mental set or purpose or demand. (3)

A more prosaic but also more useful description is given by Harris who named five prerequisites of reading comprehension: vocabulary, the ability to follow reasoning, attention, and organization of material into phrases and thought units, and rate sufficient to catch the flow of ideas. (5) Guilford's three dimensional model of thinking clarifies the structure of reading comprehension even further. During recognition, the reader translates the printed symbol into meaningful units, first individual words, then classes (relationships), then systems of ideas, and eventually transformations and implications as occur in the reading of poetry and prose. (4)

Pearl A. Roossinck

Further translation of the foregoing ideas into self-instructional material is the burden of this paper.

I have applied two new techniques for improving comprehension, the cloze technique and programming. Taylor (9) and Rankin (6) used the cloze technique chiefly as a test for comprehension but both recognized its potential as an instructional method. They deleted key words from selections at regular intervals. For example, they might substitute a blank for every fifth noun or verb. A reader is able to supply the missing words if he is comprehending the author's message. Therefore, if the selections were carefully sequenced from easy to difficult, the deletion method might well be used to improve paragraph comprehension. This is where programming enters. The earmarks of a good program are: 1) materials presented in small steps, carefully sequenced so that each exercise paves the way for a more difficult one; 2) constant response by the student; and 3) immediate knowledge of results. Now let's see how these techniques can be put to work to improve paragraph comprehension.

The program is based on a model of paragraph comprehension described by Smith. (8) As illustrated in the model (Table I), difficulty of a paragraph is

TABLE I

Ways To Increase The Complexity of Paragraphs

Grammatical Units for Increasing Paragraph Complexity	Lexical Units for Increasing Paragraph Complexity
I. One-sentence paragraphs. A. Simple sentences with minimal qualifiers. B. Complex and compound sentences with minimal qualifers. C. Simple sentences with qualifying phrases. D. Complex and compound sentences with qualifying phrases and clauses.	I. Summation. A. Accenting key words B. Linear order: Avoidance of ommissions, reversals, premature closure. C. Suiting rate to purpose and complexity of material.
II. Two-sentence paragraphs. A. , etc. (similar to I above)	II. Classification. A. Recognizing antonymous and synonymous relationships. B. Noting orders: time, space, cause-effect, degree.
III. Multi-sentence paragraphs. A., etc. (similar to I above)	III. Abstraction. A. Inferring the main idea. B. Drawing conclusions. C. Awareness of hierarchies of ideas.

seen as a joint function of syntactic complexity and lexical complexity.

To follow a sequence of syntactic or grammatical complexity, the frames of the program are sequenced beginning with paragraphs composed of one or two simple sentences with few or no modifiers. Then the sentences become more complex with qualifying phrases and clauses. The later paragraphs are longer, and with more and more sentences and the sentences have many qualifying phrases and clauses. The reasoning skills that the student must use to fill in the blanks also become more difficult. One of the simpler reasoning skills is summation, keeping units -- words, phrases, and clauses -- in mind until the passage is completed. Classification is an attempt to relate and organize these units. Abstraction, perhaps the most advanced level, is the naming of these relationships. Examples of the paragraphs will illustrate how these skills are used in the program.

Following is an example of summation skills:

> One of the most important forest products is wood pulp from which paper is made. The smaller logs are used to make wood pulp. When these logs reach the mills, they are chopped into small chips. The chips are mixed

> with water and certain chemicals and cooked in huge vats. The pulp is then shipped to manufacturers who make _____________from it.

The use of wood pulp for the manufacture of paper is mentioned only in the opening sentence. The reader must keep this information reverberating through the entire paragraph if he is to fill in the deleted word.

It is easier to keep ideas reverberating if key words are accented. This is a simple task in the following example:

> When the Indians lighted their fires the air above them was filled with clouds of __________.

Only the subject-verb-direct object skeletons of the two clauses must be accented. "Indians lighted fires: air was filled". It is assumed the gradually increasing length of items will result in improved accenting. The next example is harder. The reader must not only accent the key words of the main clause, "People speak language," in the first sentence, but he must also discriminate the phrase and dependent clause which limit the meaning of the main clause. Consequently, he must accent the key words in them, "of country, they are nearest."

> Swiss people speak the language of the country they are nearest. Most of the people live in the part of Switzerland close to Germany. So most Swiss people speak ________.

Often students change the wording of paragraphs to make them say what they expect them to say: They add words, omit them, or misread them and never notice their errors. In the next example, the reader would probably fill the blank with the word _fish_ if he were occupied with the general topic of fishing.

> Ben was out fishing Splash! He had a surprise. Just at the moment when he felt a tug on his line, something hopped into his boat. It was a funny, green ___________.

If the reader supplies the deletion with the word _fish_, it is because he has ignored the clue, "Hopped." When he is shown the correct answer, _frog_, immediately afterward, he will be aware of the nature of his error. The subsequent paragraphs should give him further practice in careful reading, and train him to avoid premature closure, i.e., "leaping at conclusions."

The next frames illustrate the second comprehension skill, classification. Frames 1 to 4 require awareness of antonymous or synonymous relationships.

1. The traders from the grasslands and forests of Asia carried bundles of sheep skins, furs from forest animals, hides from wild horses, and _______ from colorful birds.

Frame 1 contains a series of words which belong to a synonymous class: skins, furs, hides, and of course the word that must go in the blank, feathers. Sometimes words are classified antonymously like hands and feet in this frame:

2. Monkeys have four hands, not two hands and two ______ as people have.

As the reader progresses he will be required to recognize synonymous and antonymous relationships between larger units, i.e., phrases, clauses, and sentences.

3. Newfoundland is located on the direct route to and from Europe. When pilots fly to America, Newfoundland is the first land they see. When pilots leave America to go to Europe, Newfoundland is the ______ land they see.

"To America, leave America; first land, last land" are two sets of antonymous phrases that the reader must classify. In Frame 4, whole sentences are synonymous:

4. Swiss people near Germany speak German. Swiss people near Italy speak __________.

Notice that the two sentences' parallel structure assists the reader to recognize the lexical synonymity.

Beside such synonymous and antonymous classes of meaning, the reader must classify in other ways. He must be aware of order, whether it is a sequence of time, space, cause-effect, or degree of intensity.

An example of time, (first, then, last):

George work first. Then Billy awoke. Danny woke ________ of all.

An example of space, so important for social studies:

Germany is north of Switzerland.. Italy is south of Switzerland. When people travel from Germany to Italy, they often travel ______ Switzerland.

An example of cause-effect: the first sentence states the situation, the second gives the cause, and the third the effect:

Carol was stringing beads. Then the string broke. She had to ________ all over again.

Degree may be shown by comparative suffixes as in example 1, but not necessarily by suffixes, as illustrated in example 2:

1. The trees in Iceland are small and twisted. Farther north, the trees are even __________ and more twisted.

2. Some monkeys have long tails. Some have short tails. Some have ______ _________ at all.

Abstraction, the final skill, is naming the relationships between words, that is, getting the main idea:

> Uncle Fred and David went out in a rowboat. They each baited their hooks and dropped them into the water. Before long they caught enough ______ for supper.

The reader observed clauses like "rowboat," "baiting the hooks," and "enough for supper" and abstracts the main idea that Uncle Fred and David are after fish.

In a frame about Jean's shopping trip, the reader must gather data about Jean's opinions of several coats she tried on, and then draw a conclusion: Which coat did Jean buy?

Mother wanted a coat for Jean. So

> they went to a store. Jean put on a red coat, but it was not long enough. Then a salesman came with a pretty blue coat. The blue coat was too long. Then Jean saw a brown coat she liked. Mother liked it, too. The brown coat was not too big. Mother gave Jean the coat she liked best. When Jean got home, Father took her picture in the new, __________ coat.

Students must be aware of hierarchies, comprehensive or general classifications, with component parts.

> Susan put the ball and bat in the box. Then she put her airplane in the box. Last of all she put in her doll. Nothing was left. She had put all her ________ away.

The students read all the components of the hierarchy: ball, bat, airplane, and doll; and name the general classification, toys.

The next two frames work just the reverse:

> 1. Airports like Idlewild are busy days and nights. Passengers gather in groups waiting for the time when their _________ will leave.

Airports, the general idea given, and

the students must name one of the two components, passengers and plane.

> 2. The foresters know whether the trees in a forest are properly spaced. Where the trees are growing too far apart, the foresters may plant more trees. When the trees are growing too ________, the forester may cut some out.

The general idea, spaced, is given first, and the students must supply one of two components, too far apart and too close.

Often both the specific and general ideas are stated. Comprehension is facilitated if the student is aware of such hierarchies:

> The women and girls could find no more berries in the forest. All the nuts and roots that were good to eat had been gathered. Hunting had been poor because the game had moved to another part of the forest. For all these reasons the Indians' food supply was almost ____________.

The reader wouldn't know that the food supply was almost gone if he weren't aware that berries, nuts, roots, and game were part of the hierarchy food.

Awareness of such hierarchies can help

the reader organize details of complex paragraphs and simplify comprehension of its message:

> Many ships carry meat, wool, leather, wheat, and other products to Great Britain. The British people need these projects. Their own country is too small to grow all the food and to produce the many materials they need. For this reason, the British people buy from countries like Argentina and Uruquay, which have much land and not so many __________.

The reader must first organize the specific information into the following hierarchy:

products

food materials

meat wheat wood leather

Then, his mind is left free to deal with the cause-effect relationship called for in the blank.

One of the most exciting discoveries about this program is the degree to which it fulfills criteria for good comprehension established long before programming assumed its present popularity. This is illustrated by Table II which relates causes contributing to poor comprehension and corrective measures taken in the program. In the left hand column are eight factors which Betts contended, in 1936, are the chief contributors to poor comprehension. All of them either lose their potency or are remedied by using the program just described. Because the vocabulary level of the program is kept low, children with a meager vocabulary can still increase their comprehension with what vocabulary they do have. Accenting key words helps to remedy word-by-word reading. Inaccurate perception is the target of exercises like the example of the frog hopping into the boat. Rankin and Taylor both reported that noun-verb deletion reduces the importance of intelligence to the deletion task, thus, presumably, allowing improvement in children of lower intelligence to the same degree as in children of higher intelligence. A variety of subject matter has been programmed in order to keep interest level high, yet all the sources have been from young-people's reading materials. Ideas have been drawn from their social studies, science and reading texts, from baseball rule books, Ripley's Believe It Or Not, scout manuals, and even some of their favorite jokes.

Table II

Factors Contributing to Poor Comprehension

And Steps Taken in the Present Research to Control Their Effect or to Correct Them

Factors (after Betts)	Control (Nullification)	Correction (through instructional exercises)
1. Meager vocabulary:	Vocabulary averaging fourth grade level or below.	
2. Word-by-word reading (inability to phrase):		Summation exercises
3. Inaccurate perception:		Summation exercises
4. Failure to note punctuation:		Summation exercises
5. Low intelligence:	Use of noun-verb deletion for lexical comprehension to reduce the contribution of intelligence.	

TABLE II (cont'd)

6. Lack of interest:	Variety of subject matter in exercises.	Programming: Immediate reinforcement.
7. Reading material too difficult:	Fourth-grade vocabulary.	Programming: Sequential arrangement of small steps in comprehension operations and grammatical units.
8. Inadequate mechanical habits.	Fourth-grade vocabulary.	Programming: Sequential arrangement of small steps in comprehension operations and grammatical units.

TABLE III

Durrell: (2) Four characteristics of a skills program for reading comprehension:	Provisions made in the program to improve paragraph comprehension.
1. Selection of skills	Smith's three operants: summation classification abstraction
2. Analysis of difficulty	According to the conceptual difficulty of the three operants and the grammatical complexity of the paragraphs, with final analysis of difficulty of individual frames computed from an analysis of percentages of correct answers made by students to frames in scrambled order.
3. Intensive teaching through graded exercise.	Sequential programming. Frames sequenced after analysis of difficulty and arranged to build student's proficiency in very easy steps.
4. A motivational program which shows the child the importance of the skills and enables him to see his progress in the skills.	Continuous student response, ie., key-words omitted in each frame; and immediate display of correct answer so the students know they are correct.

The very nature of programmed instruction is an antidote for too difficult reading material and inadequate mechanical habits. By sequencing the comprehension operations and grammatical units in very small steps, the student builds the ability to face more and more difficult material. In other words, the earlier exercises will have equipped him to handle the difficult material when he reaches it.

We may summarize this comprehension program by assessing it against criteria named by Durrell. (2) Table III shows four characteristics of a skills program for reading comprehension and provisions in the present program analogous to those characteristics.

References

1. Betts, Emmett Albert. The Prevention and Correction of Reading Difficulties. Evanston: Row Peterson and Company, 1936, p. 261.

2. Durrell, Donald D. "Development of Comprehension and Interpretation," in National Society for the Study of Education. Reading in the Elementary School, Forty-Eighth Yearbook, Part II, Chicago: University of Chicago Press, 1949.

3. Gates, Arthur I. The Improvement of Reading. New York: The Macmillan Company, 1929, p. 70.

4. Guilford, J. P., "Frontiers of Thinking that Teachers Should Know About," *The Reading Teacher*. 1960, 13, 176-182.

5. Harris, Alvert Josiah. *How to Increase Reading Ability and Guide to Developmental and Remedial Methods*. New York: Longmans, Green, and Company, 1956, p. 346.

6. Rankin, Earl F., Jr. *An Evaluation of the Cloze Procedure as a Technique for Measuring Reading Comprehension*. A doctoral dissertation for the University of Michigan, 1957.

7. Roossinck, Pearl A., *A Method for Improving Reading Comprehension*. A master's thesis, University of Michigan, June, 1962.

8. Smith, Donald E. P., "Reading Comprehension, a Proposed Model," in Causey, Oscar S. and Bliesmer, Emery P. (ed), *Research and Evaluation in College Reading, Ninth Yearbook of the National Reading Conference*, Fort Worth, Texas: Texas Christian University Press, 1960, pp. 21-27.

9. Taylor, W. L., "Cloze Procedure: A New Tool for Measuring Readability," *Journalism Quarterly*, 1953, 30, 415-433.

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